

# TEACHER'S PRIDE

A COMPLETE MAGAZINE FOR TEACHERS AND TEACHER EDUCATORS

Rs. 110/-



**'CHANGE IS THE PRECURSOR FOR MODERNISATION'**

**LEADERSHIP AND MANAGEMENT**

**EDUCATION: SUCCESSES & PITFALLS**

**INCLUSIVE TEACHING PRACTICE**



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# TEACHER'S PRIDE

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**EDITORIAL | EDUCATION**

**E**ducation is an important tool for social and economic mobility of a person in a society. According to a UN report, India has the world's largest youth population of 356 million people in the age group of 10-24. Within this generation are 600 million adolescent girls with specific needs, challenges and aspirations for the future, the report said. The quality of primary education in India has been a cause for concern. The gender disparity between boys and girls to equal access to education has opened up debates and concerns.

The disparities between government and private schools has increased manifold. The condition of the government run schools is deteriorating day by day, especially in the rural areas due to financial constraints. Private schools are mushrooming rural India. Students who come from economically backward classes are obliged to opt for Government run schools due to their poverty. Such students are deprived of good quality of education as compared to students who are gaining education in the private schools. There is a dearth of qualified teachers in the government run schools.

The Annual Status of Education Report (ASER) released earlier this year had some startling observations on reading and maths levels in all Indian states. In 2010, nationally, 46.3 percent of all children in Class V could not read a Class II-level text. This proportion increased to 51.8 percent in 2011 and further to 53.2 percent in 2012. This decline in reading levels is mainly in states such as Haryana, Bihar, Madhya Pradesh, Maharashtra and Kerala, which happens to be the most literate state in the country. In maths, the situation seems as grim, especially in government schools. In 2012, only 11-20 percent of Class V students could do division in states such as Gujarat and Tamil Nadu.

The primary education system in the country is broken and attempts to fix it are feeble. Unless the problem is addressed quickly, these young ones would grow to join the swelling ranks of the 'educated unemployable' in the country. The picture is alarming as it requires immediate policy action. Bertrand Russell said, "the educational system we must aim at producing in the future is one which gives to every boy and girl an opportunity for the best that exists".

**KARANVIR SINGH**  
Editor



## Change Is The Precursor For Modernisation

VK Banga, Commander (Retd.)  
Principal, Mann Public School,  
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Modernization of Democratic India is what we are looking for" is a question posed by Mr Modi. Can it be possible without having first ensured that the common man, the masses, are educated?

To begin with, it would be appropriate to mention that there is a difference between educated people and literate people. The need of the hour is to make people realize that they can certainly achieve modernisation, if only all of us take it up as a mission and follow the charismatic leader who has the vision and will to modernise and implement educational policies. Empty talks will never achieve our goal of universal education. Firstly, let us make ourselves clear. What do we mean by modernization? What is the difference between an educated person and a literate person? As enshrined in India's Constitution, is that a fundamental duty, equally as important as the fundamental rights? What is the significance of being an Indian and possessing a sense of belongingness to the nation? Looking at the present scenario in the country, it will be appropriate to state that modernization is rooted primarily to the people, who have been struggling to have access to the basic needs of life. A majority of the people living in the remote villages of India is deprived of access to basic education. The first and foremost is to help them to raise their economic status so that they can become self-made persons. Modernisation does not mean only materialistic advancement but a change in thought process as well. Studying A,B,C,D, or merely passing a class may make us literate but value added education, coupled with manners and etiquettes, takes us towards the so-called educated people. Even after 68 years of independence, we are still labelled as "developing country". Both our predecessors and contemporary leaders could not cultivate a sense of belongingness among the masses of the nation. Unless we do this, our dream of becoming a developed nation will remain an unfulfilled dream.

The present system of education needs to be studied, analyzed and assessed carefully by getting feedbacks from both government and private schools. Assessment in co-scholastic areas should be done with accurate techniques and not through subjective assessment only. Value-based learning should be made mandatory while carrying out assessment of individuals. High grades must be set as qualifying marks. It should carry a value to the extent that students are qualified to go to the next higher level of learning and finally into employment. The social work done

by an individual or community service should be taken into account while in studies.

To ensure discipline as an integral part of life, one can think of making NCC a compulsory subject for class IX to X. This is also a time to analyse and study as to how can we generate interest among students to go for research in multi-disciplinary subjects. Article 51A(h) of the Indian Constitution urges us to develop a scientific temper, humanism, and the spirit of inquiry and reform. Every student should be encouraged to imbibe such ideals.

Undoubtedly, the key to success lies in educating masses rather than making them literate only, making people know more about fundamental duties first than fundamental rights. If I have volunteered to be a teacher, my fundamental duty is to give my best and impart value-based education to the child. For this I must update myself with technology and be a role model for the students. And if I cannot do that it should be my moral duty to change my profession because I don't have the right to play with the life or career of someone who has reposed faith in me. Thus a person having aptitude and willingness to be a teacher should join this noble profession as a mission and not as a source of earning only.

Government can develop methods to filter out such people. The gap between a teacher and a student is widening day by day. Teachers are burdened with clerical work. A mechanism should be developed to provide an academic environment to the teachers who can think, propose, and implement new ideas in the service of the education system. Today, students are well equipped with technology but they waste lot of time on Facebook, Twitter etc. We must utilise technology to enhance our skills and analytical thinking. We must promote technical tools. The more we indulge in debates and discussions, the more we learn to think analytically. We must keep in mind that a degree is useful only when we can practise our skills for the benefit of the humanity.

Here, it is pertinent to mention that print and electronic media can play positive role in changing the thought process by showing movies, serials or publishing articles on positive themes. By nature, children may unintentionally pickup bad habits early at a tender age. If it becomes a habit over time, it becomes too difficult to overcome. Thus teaching them that Truth is always a winner and bad habits always a loser, will have more a positive impact on the mind and enhance creative thinking, compelling people to move in a

*continued on page: 33*





# What Makes You An Exam Topper

Rahul Kumar, Ph.D Scholar,  
Jawaharlal Nehru University , New Delhi

The first and foremost essential step is to select the subject in which one feels comfortable. We come to learn about the exam toppers. We must keep in mind that an exam topper is not a person with a different biological mind than the average student.

Five 'Ds' i.e. Dream, Driving force, Determination, Discipline, Dedication plays a crucial role in making a topper.

**Dream:** A Dream is very important element in the life of a topper. Dream pushes a topper to strive for choosing a goal. Dream gives strength to a topper to deal with problems with calm and cool disposition. A dream gives a topper a wake up call and constantly reminds him or her about wish fulfillment.

**Driving Force:** Man is a social animal. While living in the society he or she hears or reads about the life and mission of charismatic personalities. These personalities inspire and motivate a topper and one day becomes a driving force for them.

**Determination:** A topper is determined and focused on his or her goal. Despite the failures and setbacks, he or she does not drop his or her intended goal. Often we encounter people who are not determined. Their mind is a wavering mind. Lack of determination makes them a rolling stone in life.

**Discipline:** Discipline assumes a prominent space in the life of a topper. Nothing bigger can be achieved without adhering to a rigorous discipline. Discipline makes the task easy and smooth. A topper has to be a hardcore disciplinary. The phrase, "Well begun is half done" is an appropriate phrase in the case of a topper. A topper keeps calm in a stressful situation that helps to develop mental & emotional self-control. A quiet mind is able to focus on the solution instead of the problem.

**Dedication:** Dedication and hard work are the key to success for a topper. Dedication means chasing goal with consistency. Consistent practice allows a person to become an expert.

A topper is a person with an attitude for penchant. He is the one who keeps on adding new things in the treasure of knowledge. Selection of the reading material from the original source lays the foundation for a topper. Socialisation relieves the pressure of studies and keeps the mind in a calm and cool condition. For a topper reading a book or solving a mathematical question is not a simple exercise. He or she analyses the content and poses a question such as if this is like this then why not like this. This habit helps in developing an analytical aptitude and enables a topper to see things from different perspectives with confidence. A topper participates in debates and discussions which enhance his analytical power to grow. A topper attends seminars and conferences happening around in the city where he or she can learn from



different experts. A topper prefers to make friends with the same goal. A highly qualified teacher is the best friend to seek expert guidance. A topper always has patience in all ups and downs of life. He or she should not fear about the result. Remember, for every success story, there are many failed dreams.

Electronic and print media play a crucial role in enhancing knowledge. A topper is different than an average student. A topper selects TV programmes very carefully which intend to give him or her fresh inputs. For example a documentary film with a public message supported by historical facts not only enhances knowledge, but also helps in memorising the names and dates of the event. Similarly, educational channels present Paper Peek, an exclusive TV series for the exam season. The 30-minute episodes are especially designed and developed by academic experts and teachers after poring through hundreds of past papers and keeping the trials and travails of students in mind. A newspaper devotes pages to different themes written by expert on a particular subject especially the articles. An average student reads a newspaper without noting down the important events but a topper will always mark the important things and preserve it. Abraham Lincoln, a famous lawyer and 16th President of the United States, believed that verbal repetition is a proven recipe for memory improvement. Lincoln also found this technique a key to improving his memory throughout his life. A topper emulates techniques and practice skills to achieve his or her target. The moral of the story is to practise five D's to become a topper. If one practises these five D's, one can succeed in any field or career to become a successful person. ■





### **HDFC OPENS NURSERY TO CLASS III SCHOOL IN GURGOAN**

The Housing Development Finance Corporation Ltd (HDFC Ltd), the country's leading housing finance company has launched a primary school in Sushant Lok III, Gurgaon, Haryana, with academic year 2015-2016 and will take admissions from pre-nursery to Class III. The administration is in the process of setting up a five-acre school campus for its higher secondary wing. The school will be affiliated to the CBSE. Speaking at the inauguration, Mr. Parekh said: "Our education initiative is an answer to the question – 'Why can't equal opportunities be provided to all Indians to secure quality education for their children leading to better careers and better lives?'"

### **TN & KERALA TAKE 38% EDUCATION LOAN**

Tamil Nadu and Kerala have accounted for nearly 40 per cent of education loans disbursed in the country. Banks have disbursed Rs 16,380 crore in Tamil Nadu, Rs 10,487 crore in Kerala — over 38 per cent of total disbursals, as per data prepared by the Department of Financial Services, Ministry of Finance.

Populous states like UP and Bihar are way down in the borrowings list: banks could disburse only Rs 6,697 crore and Rs 3,053 crore respectively. Students in Maharashtra have received only Rs 4,906 crore so far; Madhya Pradesh has got Rs 1,945 crore. The entire Northeast has got only Rs 736 crore.

Prime Minister Narendra Modi's home state Gujarat accounts for Rs 1,508 crore of education loans, with barely 50,000 students opting for loans. Why are education loans so popular in TN and Kerala?

"The high literacy level in these states is a major reason. Another reason is the huge number of educational institutions, especially professional colleges. Most students in southern states go for higher education, and are keen on taking up jobs," said V R Iyer, chairperson and managing director of Bank of India.

## **FDI In Education**

No doubt, education system in India is in bad shape. The reduction in current budget in the education pool is going to add more woes significantly in the government run schools. The government has reduced funds for higher education to the tune of Rs 3,900 crore in its revised budget estimates for the financial year 2014-15. The government has revised the figure to Rs 13,000 crore, as against Rs 16,900 crore for the plan allocation. The reduction of 163 crore will affect the new IITs. The public schools in the rural areas run by the state government are in critical situation. There is a dearth of qualified teachers. Dropout rates are very high. There are no separate toilets for girls. In the face of financial crunch to upgrade the infrastructure in the schools it becomes essential to infuse funds from other sources. The government's decision to bring in FDI to the education system will certainly help in upgrading the infrastructure particularly in the rural schools run under the aegis of the state government. With about 32 percent of its population in the 0-5 year age bracket, India today is one of the youngest nations in the world. This translates into the Indian education system being one of the largest globally with a network of more than 12 lakh schools and over 30,000 higher education institutes. There is an urgent need to focus on the primary and secondary education.

## **Dhondo Keshav Karve - Women's Educationist**

Karve was born on April 18, 1858 and died on November 1, 1962. His pioneering contribution to women's education in India is commendable. He hailed from Sheravali in the Khed taluka of Maharashtra's Ratnagiri district in a Chitpavan Brahmin family. From an early age, education was an important aspect of his life. He once walked 110 miles on a difficult terrain and amid rain to the city of Satara for an examination, but was not allowed to appear in it because he looked very young -- a very disheartening experience for Karve. Later, he studied at Bombay's Elphinstone College and secured a bachelor's degree in mathematics.

Against his father's wishes, Karve, in a fairly radical decision for that era, decided to re-marry a widow, Godubai, who had also started receiving an education. When he started teaching mathematics at Pune's Fergusson College in 1891, Karve decided that women's education would be his goal in life.

His influences were wide-ranging — from educationist Pandita Ramabai and social reformer Vishnu Shastri Pandit to British intellectual and scholar Herbert Spencer, whose works he read.

## **Savitribai Phule, the First Woman Teacher in India**

Savitribai Phule (3, January 1831- 10 March, 1897) hailed from Naigon, Maharashtra. Teaching, especially in India, is arguably a woman-dominated profession. However, during the British rule, a woman called Savitribai battled the challenges of being the first woman teacher in India. While on her way to school, she would be pelted with rotten eggs, tomatoes, cow dung and stones by orthodox men. Unshaken by these vicious acts, Savitribai determinedly continued her work in the field of education and started the first girls' school with the help of her husband. Eventually, Savitribai Phule was honoured by the British government for her contributions to education. The government of Maharashtra has instituted an award in her name to recognise women social reformer. Savitribai Phule Pune University, formerly the university of Pune, is a university in western India in the city of Pune.





# Inclusive Teaching Practice

Dr. (Mrs) Prem Mehta,  
Principal, Satyug Darshan Institute of  
Education & Research, Faridabad



Last night I was watching Sony Entertainment channel on TV. As I started fiddling with my remote to surf channels, my fingers stopped when I saw the heading TARA ZAMIN PAR. Oh! Wow! I remembered the role of Aamir Khan as a teacher, a real teacher, and a real motivator. Here, let me Quote the words of William Arthur Ward.

*The Mediocre teacher tells*

*The good teacher explains*

*The superior teacher demonstrates*

*The great teacher Inspires*

Don't you feel it was a magic, magic, magic.....was there the need of some extra classroom or some extra resources etc. Where the parents, principal or society could not understand the child Ishan. Aamir Khan brought a tremendous change in the dyslexic child, understanding him and removing him from his disorder. It was a very normal, natural and simple behaviour, no artificiality.

In general, education is a process of teaching-learning where a more mature person (teacher) imparts the necessary, adequate information to a less mature (student) to bring about a modification in his behaviour.

India, the world's largest democracy states that Education is no longer for privileged, elite classes only. It is one of the fundamental rights of every Indian citizen.

The word INCLUDE implies being a part of something, being embraced into the whole. All learners have right to education

regardless of their strengths & weaknesses. So what can be the Inclusive Teaching Practices as adopted by teachers. Let me here tell you here in countries like U.S.A. the teachers executing responsibilities in inclusive education are referred as **METHOD AND RESOURCE TEACHERS**. They are required to have expensive teaching experience with other characteristics such as training, adequate motivation and commitment etc. These teachers are likely to do the following duties:

1. Planning & development of the programme.
2. Execution of the programme.
3. Evaluation & assessment.
4. Monitoring the programme.
5. To establish liaison & communication.
6. Direct Instruction.

In our country, most of the teachers generally do teaching work, many of the half-heartedly that is why they are perceived Inclusive education as a very difficult process. Let me here points out that let there be more opportunities for In-service & pre-training opportunities for their personal & professional growth, so that they can be well versed with the latest teaching technology. But seriously, how many of us are really ready to learn new educational technology & using new teaching & techniques in the class and are to take care of every child may be having diversified physical & mental characteristics. And in a country like India, which is the







world most populated economies. The huge classes, so many teaching periods, checking of home assignments for each and every student-naturally the teacher community would be a big barrier to the implementation and success of the new approach howsoever better it may be.

The Government of India has launched its *Sarva Shiksha Abhiyan* a program for seeking education for all SSA will ensure that every child with special needs will ensure irrespective of the kind, category and degree of their normality or exceptionally is providing education in an appropriate environment. To ensure the success of this program, it has introduced the Right Education bill in 2005, clearly emphasizing the right to full time, free and compulsory education in a neighboring school to every child between the age of 6 to 14 years, meaning thereby that no nearby school can deny admission for the inclusion i.e. Meeting the demands and requirement of the children with special needs (CWSN) along with the Normal or average.

Facing the challenges through In-Service and Pre-service teacher education programs- These programs should be designed as to introduce desired changes in the behavior of the in-service. For this purpose they must be helped in gaining desired knowledge and understanding, skills, interest and attitudes related to:

1. The concept and philosophy of Inclusion.
2. Helping the students in the development of their potentialities to the maximum extent possible irrespective of their normality or exceptionality
3. School environmental modifications as per needs of the physically challenged students
4. Participation in co-curricular & other leisure activities. Through these children learn to express themselves and gain self-confidence
5. Learning with normal children in the same class-room sharing learning experiences and interacting with each other & enhance their self-esteem and social prestige.
6. Right perspective in the sense- let the non-disabled children develop positive attitude for the weaknesses of disabled children, help them and this makes classroom atmosphere more permissive and conducive for better performance and thus they learn the qualities of good citizenship.
7. In educational Institutions orienting the pupil teachers about the need & purpose of introducing inclusion as the fundamental policy in school education.
8. Arranging their teaching practice programmes in the inclusive set up of the practicing schools.
9. The purpose of life is improvement.

So according to Anthony Ribbins, we must commit to CAN i.e. Constant and never ending improvement. Here teamwork will help in achieving our purpose. This means a teacher imparts, instructs and raises awareness of something, but also has to

be a jack-of-all-trades.

10. Remain open for the adoption of new philosophies and create conducive environment and work culture based trust and shared decision making. Be mentally prepared to accept the new social changes.

11. Providing grant-in-aid not only through Government agencies but International donors, NGO's, capitalistic classes like Tata's, Birla's, Reliance etc can come forward for the cause of Inclusive Education assistance.

The National council of Educational Research & Training (NCERT) is also organizing workshops on improving Inclusive Teaching Practices and In-service Teachers Training programmes at different times.

The real role & responsibilities of the teachers in Inclusive Setting can be summed as follows:

- \* Teachers must be aware of 3R's i.e. Rights, Roles & Responsibilities.
- \* Helping children grow his potentiality to the maximum
- \* Following the principles of Zero Rejection Policy (ZRP) according to which everyone should be welcomed.
- \* Making students understand & accept human differences
- \* Providing enhanced opportunities for overall development of physical, cognitive, emotional and social development
- \* Fostering positive attitude among students
- \* Participating in parents' & community orientation programmes
- \* Preparing maximum number of activities for the entire class
- \* Developing their self-confidence to meet challenges of life
- \* Developing alternative teaching strategies
- \* Determining students strength & weaknesses
- \* Encouraging cordial relation between normal and disabled students

It is a very long journey with new philosophies, and new ideas. Education is a life long process. Teachers should have high degree of communicative skills, let the teacher look deep into the consciousness of child. Calling a child naughty, or 'lame' may hurt their sentiments. Harsh words should be avoided. Do not call children duffers, underachievers etc. Parents are hesitant to see their children as such. The parents should also be counselled.

Solve the problem by paying extra attention to disabled children & letting them to bring out their imagination not through only rote learning but by inclusion of co-curricular activities i.e. by painting, handicrafts, candle-making etc. So let all teachers

Dip into the heart of every child  
Which is very pious and mild  
And come out with a smile...  
And pass that smile...

Like a fragrance of Rose in the Garden of Life... ■



# A Library For Contemporary Children And Researchers

Mitlesh Anant



**N**ational Book Trust, India (NBT) is the apex body of Government of India for book publishing and book promotion under the Ministry of Human Resource Development Ministry. The major activity of the Trust includes publishing, promotion of books and reading, organizing workshops, promoting Indian books abroad, assistance to authors and publishers. NBT publishes general reading material for all in more than 30 Indian languages including English. It would be worthwhile to underline that National Book Trust, India also runs the National Centre for Children's Literature (NCCL), which is located at the Vasant Kunj, New Delhi headquarters of the Trust. Among many other activities undertaken by the NCCL, its Library-cum-Documentation Centre occupies a significant place.

The NCCL Library came into existence in 1993 with the establishment of National Centre for Children's Literature and has been functioning since then. The Library is well connected with all the organizations, institutes, NGOs and people active in the field of promotion of children's literature across India. It got renovated recently and was inaugurated by the then Union HRD Minister Dr M M Pallamraju on the occasion of the NBT's Foundation Day celebrations on 1st August, 2013.

## THE AESTHETICS OF THE LIBRARY

The NCCL Library has been specially designed and given an artistic look by depicting Panchtantra tales on its outside wall through wooden cut out of the characters from Panchatantra stories. The animated colourful picture wall at the activity-cum-display corner attracts the visitors. The white clouds structured at the ceiling can motivate one put on one's imaginative cap! A neat wooden librarian's counter has been given the cheerful background with bright colours. The main entry with an attractive butterfly glass door makes it very graceful. Special care has been taken so as not to block the natural light making the ambience lively as well as green-friendly. The shelves have been designed so as to accommodate and exhibit the children's literature of all foreign and Indian languages in an aesthetic manner based on the genre/age-group/language classification of the same. This is a unique attempt to showcase the best of Indian children's literature of its kind in the country. One may come across the children's literature of the last three decades at this source.

## CLASSIFICATION AND CONTENT OF THE LIBRARY

The Library has been developed considering the needs of children's literature among authors, illustrators, publishers, and the whole community of creators associated with it. The books have been arranged and kept according to their sub-



jects such as songs and poetry, lulla bais, rhymes, drama, folktales, fairy tales, legends, mythology, fables, Panchtantra tales, Jataka tales, Hitopadesh stories, short stories and novellas etc. The shelves showcasing this children's Literature have been specially designed for the purpose.

The Documentation Centre is a par excellence and storehouse for researchers. The Library gets students and researchers undergoing post graduates degree (PG), master of philosophy (M Phil), doctorate (PHD) in the children's literature from Indian Institute of Technology (IIT), Tata Research Institute (TRI), Jawahar Lal Nehru University (JNU), Delhi University (DU), Tata Energy Research Institute (TERI), National Council of Education Research and Training (NCERT) and many more reputed institute visit here regularly to consult the library material for their research work. The library has provision of two types of membership i.e regular and temporary for Delhi and NCR. A special arrangement for the researchers to do their research work as well as to accommodate general readers having interest in children's literature have been made.

### The Library has three main sections.

The first part is allocated to the collection of selected 15,000 quality books of children's literature in 44 languages. These are in 18 original Indian languages and 26 foreign languages. We have books in Chinese, French, German, Italian, Japanese, Polish Swedish, Thailand among other countries. Some of the masterpieces, among the vast rage of them available here, that this Library boasts of include: Bai Luside Guxiang by Oigan Chen, Zhihui Moshudai by Wuzhang Xie (both Chinese), Mille Millions de questions Sur La Vie Le Monde Et Diet by Benoit Marchon & illustrated by Christophe Merlin, Petit Soldat Noel by Their Dedieu (both French), 'Die Kleine Igel-frau by Lene Mayer – Skumanz Ursula Miller (German), Hayered Shelo Ratsa Lishon Levad by Mir Meir ( Hebrew) ,Das Barenwunder' by Wolf Erlbruch (German), Jacopo il giullare by Max Bolliger & Stepan Zavrel, 'Una Strana note di Natale' by Luigi Santucci (both Italian), Fukimanbuku by Matsuoka Kyoko, I am a wolf by Sasaki Maki (both Japanese), 101 Dalmates Brincam De Esconde- Esconde by Jon Z Haber (Polish), Sto Pomy stow Zabaw I Zajec by Dudzinska (both Polish), Apan Fin by Annaclara Tidhalm and Nalle Hei ! by Annaclara Tidhalm (Swedish), Cuatro Calles Y un Prolema by Graciela Montes (Spanish), El Lapiz De Rosalias (Spanish), Mod sib Tua by Cheewan Wisasa (Thailand), La Leyenda De Boni Martin by Jose Luis Olaizala (Thailand) among other 1900 awarded books from more than 50 countries.

The second major collection is dedicated to 600 reference books, including classics and religious texts of Indian culture such as a set of Vedas, Puranas, abridged version of Ramayana, Gita, Mahabharata, Jataka tales, and other general information books such as Oxford Illustrated Encyclopedia, A Set

of Oxford Dictionaries, Hobson – Jobson's Dictionary, Kam-il Bulke's Hindi Dictionary, Atlas of the World, Culture of the World by Times Book International, Singapore, A set of Culture Course by Bhartiya Vidya Bhavan, Photographs and the Motifs booklets by Art and Culture, almanacs, etc. The library subscribes to more than 50 current children's magazines. In this section, the library has books in Asamiya, Bangla, Hindi, English, Gujrati, Kannada, Malayalam, Odia, Punjabi, Telugu, Tamil, Urdu, and other langauges.

The third major collection includes works of popular children's writers of all times. Authors of the pre-independence era have been included in the collection with the pioneers of children's literature like Rabindranath Tagore's *Geetanjali* (Bangla); *Selected Poems of Rabindranath Tagore* (English), Master Ji, (Hindi), *Tote Ki Kahani*, *Parasmani* (Hindi), *Dash Banhur's Pharu Bhitare Pharu* (Odia), *Aila Aila Chidir Ghadu*, (Odia), Mahashweta Devi's *'Arjun* (Hindi), *Tutul* (Bangla), Dr Zakir Hus-sain's *Abbu Khan Ki Bakari* (Urdu), Premchand's *Do Ballon Ki Katha* (Hindi), *Sujan Bhagat* (hindi), *Idgah* (Hindi), *Kutte ki Kahani* (Hindi), *Vardan* ( hindi), *Harikrishan Devsare's* *www.Ghana Jungal . Com'* (Hindi); *Jungal Mein Teen Din'* (Hindi), *Naya Panch Tantra* (Hindi), *Aur Billi Rasta Kat Gai* (Hindi), *Yamraj Kavardan'* (Hindi) Prakash Manu's *Hindi Kavita Ka Itihas* (Hindi), *Nanhi Go Go Ke Ajeeb Karname* (Hindi), Satyajit Ray's *The House of Death and other Faluda Stories* ( English), *The Unicorn Expedition and other Stories* (English) Kshama Sharma's *Pappu Chaia Dhoondne Sher* (Hindi), *Bul Bul Aur Munnu'* (Hindi), Paro Anand's *The Little Bird'* (English), *Pepper the Capuchine Monkey and other Stories* (English), *Elephant Never Diet* ( English), *No Guns at My Son's Funeral* (English), Swapna Datta's *Stories For a Winter's Night* (English), *Teddy Comes to Stay* (English), Margrat Bhatt's *Kingdom of No Dreams* (English), Indira Ananthkrishnan's *The Forest Nymph* ( English), *Do Dost* (Hindi), Vayu Nayudu's *A Folktales from Bihar A curly Tale'* (English), Vicky Arya's *Ashi Aahe Mazi Gashta* (Marathi), *Balloons for me* (English), *Boy who became King* (English), Kalpana Swaminathan's *True Adventure of Prince Teentang'* (English), Dattaray's *Dinosaur and other Stories* (English), Neeta Berry's *The Story of Time* (English), *Wonder of Water* (English), R K Narayan's *Indian Epic Retold'* (English), *Maneater of Malgudi* (English), *Malgudi Landscapes; The Best of R K Narayan'* (English), Ruskin Bond's *The Blue Umbrella'* (English), *Angry River* (English), *The Room on the Roof'* (English), *The Last Tiger* (English), Manoj Das's *'Chasing the Rainbow: Growing up in Indian Village'* (English), *Golden Deer and other Tales* (English) Anupa Lal's *Dream Scream and Other Poems* (English), *Little by Little* (English), *Suraj and Sher Singh* (Hindi) Kamlesh Mohindra's *The Jungle Adventure* (English), *Reema's World* (English), *On the Thieves Trail* (English), *Caught Red Handed* ( English) etc are kept with their other remarkable works may be seen in this library. All the selected books in 18 Indian languages are included in the li-

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# LEADERSHIP AND MANAGEMENT: Insight From Swami Vivekananda's Wisdom

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## ABSTRACT

This article discusses the insights from the Swami Vivekananda wisdom on leadership and management. With the increasing role of an individual in a highly competitive world the leadership and managerial capacity becomes essential for survival. Leadership plays a significant role in shaping and developing a personality of an individual. To lead a meaningful life Swami Vivekananda philosophy guides individual to manage himself. Proper Management of self has been considered the most significant aspect of human life.

**KEY WORDS:** LEADERSHIP, MANAGEMENT, POSITIVE ATTITUDE, INTERPERSONAL RELATIONSHIP

*What is a leadership "Arise, awake and stop not till the goal is reached"*

## INTRODUCTION

A leader is a person who leads, plans, influence, command and guides the people for reaching toward a common goal. Such a person has demonstrated leadership skills. By using these skills a person encourages others to carry out responsibilities and accomplish its goals. Leadership skills are important in the workplace. Leadership skills help everyone work together more successfully to meet objectives. A leader should have these qualities.

Swami Vivekananda has rightly said that every new thought creates opposition. A good leader always takes it positively and has the capability to go against the winds. They become the revolutionary leaders. The workplace needs good leaders at all levels - not only in top management. To be a leader, one must inherently have followers and supporters, which means one have to be adept at selling, inspiring and motivating people to buy into your vision. Good leaders use a variety of leadership styles. There are a number of different ways looking at leadership styles.

We can classify leadership styles into three categories which are autocratic /democratic / laissez faire/lenient styles. These three categories see leadership style in terms of the amount of freedom to make decisions that a leader gives to those with whom they are working as a team.

### AUTOCRATIC LEADERSHIP

This style of leadership is task-centered. The most important

thing while using an autocratic style of leadership is usually getting a certain task completed. This style of leadership spends less time focusing on explanations and discussions, and more on orders. They behave like a boss. Quoting E.M. Kelly, Remember the difference between a boss and a leader: "A boss says, "Go!" A leader says, "Let's go!"

Advantages of an autocratic style include that it gets things done quickly, it can stop a group from making decisions that always affect a minority adversely, it ensures a leader gets listened to (at first), and it can let team members know when their behaviour is unacceptable. Disadvantages are that it can distance team members, it doesn't allow team members to develop by thinking for themselves, and it is often just an "easy option" used instead of spending time working through problems.

### DEMOCRATIC LEADERSHIP

This is probably the most commonly used leadership styles. Democratic leadership involves working with a group to make sure they make decisions fairly and sensibly. It involves intervention to ensure that everybody has a say and that decisions do get made. The typical image of democratic leadership involves a group sitting in a circle, having a discussion and having a vote. The advantages of democratic leadership include that everybody gets a say, it transfers power away from the leader of those they are working with,



and it gives a feeling of power and control which in turn motivates and develops team members. The disadvantages include the intervention necessary - which can be the wrong thing to do, and the slightly overused techniques that can turn some team members off.

### LAISSEZ-FAIRE LEADERSHIP

The laissez-faire style of leadership can often be used very badly and for that reason often gets a bad name. Laissez-faire is more people than task centered. This leadership style involves leaving a group to make their own decisions - to the extent of not telling them they have to make decisions now. This is the style of a leader who hopes that a group will realize they are doing the wrong thing without telling them. The advantages of the laissez-faire model are that it can allow a chance to bond in a less formal way, and that leaving team members to make their own decisions can be very successful if they work well together in terms of the ownership and responsibility it gives to team members. The disadvantages are that often this model leaves team members doing the wrong thing without realizing it, that some individuals can simply dominate, and that if a group disappoints and is reprimanded the effect can be very negative.

Relevance of Blending Swami Vivekananda's philosophy with management or leadership quality: Today youth is becoming increasingly competent and knowledgeable about technology in all its various forms. They are fast to adapt the new technology, Usage of the web at the optimal level of youth who were born into the digital age and fluent in the digital language of computers has allowed them to build networks beyond classroom walls and to form communities around their passions and talents. Such network among the peer groups enhanced the learning capacities and stimulate the learners to get engaged in several activities of learnings. It has been noted that youth at their early stage learn learning methods by playing educational games on different topics on the computer. The experience of our great leaders can help them to get their potential in the right direction for example, creation of face book over the internet allows the students to interact with like-minded people and increase the knowledge and capability for learning. It will provide opportunities to get associated with the intellectual community through forums and discussions all over the world. If we blend these new technologies with the experiences of our great leaders the outcome will definitely be great. According to Swami Vivekananda, "Great works require great and persistent efforts for a long time".

I tried to blend Swami Vivekananda's 15 Laws of life with the management principle. How these would be helpful for a leader to become a successful leader.

### 15 LAWS OF LIFE: WHAT YOU NEED TO KEEP IN MIND

**1. Love Is The Law Of Life:** All love is expansion, all selfishness is contraction. Love is therefore the only law of life. He who loves lives, he who is selfish is dying. Therefore, love for love's sake, because it is the law of life, just as you breathe to live. If you love to do or you have passion to accomplish your task. You will be a true leader.

**2. It's Your Outlook That Matters:** It is our own mental attitude, which makes the world what it is for us. Our thoughts make things beautiful, our thoughts make things ugly. The whole world is in our own minds. Learn to see things in the proper light. A leader with vision has a clear, vivid picture of where to go, as well as a firm grasp on what success looks like and how to achieve it. But it's not enough to have a vision; leaders must also share it and act upon it. Jack Welch, former chairman and CEO of General Electric Co., said, "Good business leaders create a vision, articulate the vision, passionately own the vision and relentlessly drive it to completion. A good leader is committed to excellence. Second best does not lead to success. The good leader not only maintains high standards, but also is proactive in raising the bar in order to achieve excellence in all areas.

A leader must be able to communicate his or her vision in terms that cause followers to buy into it. He or she must communicate clearly and passionately, as passion is contagious.

A good leader must have the discipline to work toward his or her vision single-mindedly, as well as to direct his or her actions and those of the team toward the goal. Action is the mark of a leader. A leader does not suffer "analysis paralysis" but is always doing something in pursuit of the vision, inspiring others to do the same.

**3. Life is Beautiful:** First, believe in this world - that there is meaning behind everything. Everything in the world is good, is holy and beautiful. If you see something evil, think that you do not understand it in the right light. Throw the burden on yourselves! A good leader has always advocated openness. Openness means being able to listen to new ideas, even if they do not conform to the usual way of thinking. Good leaders are able to suspend judgment while listening to others' ideas, as well as accept new ways of doing things that someone else thought of. Openness builds mutual respect and trust between leaders and followers, and it also keeps the team well supplied with new ideas that can further its vision.

The kupamanduka is a frog that lives its whole life within a well, knows nothing else and is suspicious of every thing out



side it talks to no one and argues with no one on anything. It rarely harbours the deepest suspicion of outside the world. For a leader farsighted and a visionary thought is must he has to be a accept knowledge from everywhere. A quality of cultivated ignorance like a frog-well can never lead a leader to a successful mode never liked by their followers.

**4. It's The Way You Feel:** Feel like Christ and you will be a Christ; feel like Buddha and you will be a Buddha. It is feeling that is the life, the strength, the vitality, without which no amount of intellectual activity can reach God.

**5. Set Yourself Free:** The moment I have realised God sitting in the temple of every human body, the moment I stand in reverence before every human being and see God in him - that moment I am free from bondage, everything that binds vanishes, and I am free.

**6. Don't Play The Blame Game:** Condemn none: if you can stretch out a helping hand, do so. If you cannot, fold your hands, bless your brothers, and let them go their own way. A good leader can never play the blame game. A magnanimous leader ensures that credit for successes is spread as widely as possible throughout the company. Conversely, a good leader takes personal responsibility for failures. Magnanimity means Generosity of spirit. This sort of reverse magnanimity helps other people feel good about them and draws the team closer together. To spread the fame and take the blame is a hallmark of effective leadership.

A leader also needs to function in an orderly and purposeful manner in situations of uncertainty. People look to the leader during times of uncertainty and unfamiliarity and find reassurance and security when the leader portrays confidence and a positive demeanour.

Good leaders are tolerant of ambiguity and remain calm, composed and steadfast to the main purpose. Storms, emotions, and crises come and go and a good leader takes these as part of the journey and keeps a cool head.

**7. Help Others:** If money helps a man to do good to others, it is of some value; but if not, it is simply a mass of evil, and the sooner it is got rid of, the better. A good leader always thinks about others interest not for self interest only.

**8. Uphold Your Ideals:** Our duty is to encourage every one in his struggle to live up to his own highest idea, and strive at the same time to make the ideal as near as possible to the Truth.

**9. Listen To Your Soul:** You have to grow from the inside

out. None can teach you, none can make you spiritual. There is no other teacher, your own soul. The more you humble the more you will be liked by your followers. A leader with humility recognize that they are no better or worse than other members of the team. A humble leader is not self-effacing but rather tries to elevate everyone. Leaders with humility also understand that their status does not make them a god. Mahatma Gandhi is a role model for Indian leaders, and he pursued a "follower-centric" leadership role.

**10. Be Yourself:** The greatest religion is to be true to your own nature. Have faith in yourselves! If you have faith in yourself that you can do it, nobody can stop you to become an effective leader. Leaders are not born, but made.

**11. Nothing Is Impossible:** Never think there is anything impossible for the soul. It is the greatest heresy to think so. If there is sin, this is the only sin - to say that you are weak, or others are weak. The attitude of a leader should think about that nothing is impossible and dedicate fully to accomplish the task. Dedication means spending whatever time or energy is necessary to accomplish the task at hand. A good leader, as well as keeping the main goal in focus, is able to think analytically. Not only does a good leader view a situation as a whole, but is able to break it down into sub parts for closer inspection. While keeping the goal in view, a good leader can break it down into manageable steps and make progress towards it. A leader inspires dedication by example, doing whatever it takes to complete the next step toward the vision. By setting an excellent example, leaders can show followers that there are no nine-to-five jobs on the team, only opportunities to achieve something great.

**12. You Have The Power:** All the powers in the universe are already ours. It is we who have put our hands before our eyes and cry that it is dark. A leader recognises these powers through its open eyes and become a powerful leader. A good leader has an exemplary character. It is of utmost importance that a leader is trustworthy to lead others. A leader needs to be trusted and be known to live their life with honesty and integrity. A good leader "walks the talk" and in doing so earns the right to have responsibility for others. True authority is born from respect for the good character and trustworthiness of the person who leads the integration of outward actions and inner values. A person of integrity is the same on the outside and on the inside. Such an individual can be trusted because he or she never veers from inner values, even when it might be expeditious to do so. A leader must have the trust of followers and therefore must display integrity.



Honest dealings, predictable reactions, well-controlled emotions, and an absence of tantrums and harsh outbursts are all signs of integrity. A leader who is centered in integrity will be more approachable by followers.

**13. Learn Everyday:** The goal of mankind is knowledge... now this knowledge is inherent in man. No knowledge comes from outside: it is all inside. What we say a man 'knows', should, in strict psychological language, be what he 'discovers' or 'unveils'; what man 'learns' is really what he discovers by taking the cover off his own soul, which is a mine of infinite knowledge. A leader learns everyday new things from its experience and become more creative and raise is the ability to think differently, to get outside of the box that constrains solutions. It gives leaders the ability to see things that others have not seen and thus lead followers in new directions. The most important question that a leader can ask is, "What if ... ?" Possibly the worst thing a leader can say is, "I know this is a dumb question ... " A good leader is enthusiastic about their work or cause and also about their role as leader. A leader always takes criticism positively and believe that if someone point out your mistakes know that at least some one is there, who is interested in your betterment. People will respond more openly to a person of passion and dedication. Leaders need to be able to be a source of inspiration, and be a motivator towards the required action or cause. Although the responsibilities and roles of a leader may be different, the leader needs to be seen to be part of the team working towards the goal. This kind of leader will not be afraid to roll up their sleeves and get dirty.

**14. Be Truthful:** Everything can be sacrificed for truth, but truth cannot be sacrificed for anything. Fairness means dealing with others consistently and justly. A leader must check all the facts and hear everyone out before passing judgment. He or she must avoid leaping to conclusions based on incomplete evidence. When people feel they that are being treated fairly, they reward a leader with loyalty and dedication. Assertiveness is not the same as aggressiveness.

Rather, it is the ability to clearly state what one expects so that there will be no misunderstandings. A leader must be assertive to get the desired results. Along with assertiveness comes the responsibility to clearly understand what followers expect from their leader.

Many leaders have difficulty striking the right amount of assertiveness, according to a study in the February 2007 issue of the Journal of Personality and Social Psychology, published by the APA (American Psychological Association). It seems that being underassertive or overassertive may be the most common weakness among aspiring leaders.

**15. Think Different:** All differences in this world are of degree, and not of kind, because oneness is the secret of everything. A sense of humor is vital to relative tension and boredom, as well as to defuse hostility. Effective leaders know how to use humor to energize followers. Humor is a form of power that provides some control over the work environment. And simply put, humor fosters good camaraderie. Intrinsic traits such as intelligence, good looks, height and so on are not necessary to become a leader. Anyone can cultivate the proper leadership traits.

#### CONCLUSION

Leadership qualities are inbuilt in every human beings there is need to understand and practice those qualities for the benefit of self –promotion as well for the society. The development in the outlook of any individual takes deep reflections, true understanding of the purpose of life and building one's personality including the qualities that can in any way benefit and sought all fellow human beings. Leaders in all kinds of organizations, occupy the most important position in the management and functioning of the same. They, with the deep understanding of the spirituality can build stability, responsibility, sound character which results in more productivity in the organizations and happy lives in the society. ■

IT IS THE EDUCATION WHICH IS THE RIGHT WEAPON TO CUT THE SOCIAL SLAVERY& IT IS THE EDUCATION WHICH WILL ENLIGHTEN THE DOWNTRODDEN MASSES TO COME UP & GAIN SOCIAL, ECONOMIC BETTERMENT AND POLITICAL FREEDOM

**BHARAT RATNA DR B. R. AMBEDKAR**



# INDIA'S EDUCATION POLICY: SUCCESSES & PITFALLS

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**T**o take the country on the path of development and not just growth in terms of income, is the need of the hour. Development is a multi-dimensional process involving major changes in social structures, popular attitudes and national institutions as well as the acceleration of economic growth, reduction of inequalities and eradication of absolute poverty.

In recent years, development economics has taken a more inclusive view on the nature of economic development, human development being an integral part of it. Human development is a process of widening people's choices as well as raising the level of well being achieved. The new paradigm of development thus puts people in the centre of development. This concept, developed by Mahbub ul Haq and Amartya Sen, is defined as 'the process of enlarging people's choices', emphasizing the freedom to be healthy, to be educated and to enjoy a decent standard of living. Economic growth is considered only a means of capability expansion and not as an end in itself.

Such a paradigm of development enables all individuals to enlarge their human capabilities to the fullest and to put these capabilities to their best use in all fields-economic, social, cultural and political. It also protects the rights of future generations. Further, it does not deplete the natural resources needed for sustaining development in the future.

The essence of human resource development is education, which plays a significant role in balancing the socio-economic framework of the country. Education and investment in education can play a pivotal role in promoting economic growth. Various studies have been conducted to assess the contribution of education in development of a nation. Education can contribute to growth in a number of ways. It helps in creating a more productive labour force and endowing it with increased knowledge and skills. It also helps in providing employment and income earning opportunities for teachers, school and construction workers, textbook and paper printers and allied industries. Education helps in creating a class of knowledgeable and enlightened leaders, public servants, professionals, etc. It also cultivates and encourages modern attitudes and institutions in the diverse segments of the population.

## EDUCATION IN INDIA

India has witnessed phenomenal educational development both in qualitative and quantitative terms, since independence. Literary and educational attainment are considered to be key variables affecting not just growth but also demographic indicators like fertility and mortality (especially infant mortality) rate. It greatly contributes in improving quality of life particularly, life expectancy.

India is a nation of young people, with more than 50% of India's population in the age group of 15-64 years, which is considered as 'working age population'. This can be an invaluable human resource if provided with the necessary productive skills so as to empower people to lead a purposeful life and contribute to the nation, which is possible only through the medium of education.

Under the various plans education facilities have been expanded at all levels in India. During the plan period, the plan expenditure on education has steadily increased. In the year 1951-1952 India had spent about 64% of its GDP on education. This figure was about 1-2% of GDP between the period of 1955-1970, which increased to 2-3% of GDP during the years 1970-1979. Since then this figure has been largely between 3-4% of GDP. Recent data shows that India spends around 3.3% of GDP on education, less when compared to average 5-8% spent in most of the developed countries. Public expenditure on education in India is even now most inadequate. Despite this, not only has the literacy rate risen but the percentage of children availing school education has also increased over the years. According to 2011 census, literacy rate is 74% of total population aged 7 and above.

## EDUCATION POLICY IN INDIA

For 20 years after independence no major change was made by the government in the colonial education policy of the British government. Maulana Abdul Kalam Azad, independent India's first Minister of Education, advocated an education policy that would be liberal and humanitarian and would take the nation on the path of progress. India envisaged a policy of central government's control over a uniform education system throughout the country. In 1964, the government realised the need to radically modernize the education system. Thus, an Education Commission under the chairmanship of Professor D.S. Kothari was constituted, which submitted its report to





the government in 1966. The government on the basis of the recommendations made by the Education Commission announced its National Education Policy in 1968. The following were the important features of this policy:

- (1) The policy aimed at fulfilling the constitutional directive towards the right to compulsory universal education for all children upto to age of 14. Due to widespread poverty in the country elementary education should be free.
- (2) To improve the standard of education the condition of teachers should be improved, with better training and particular attention should be given to their salary scale.
- (3) In order to meet the requirements of agriculture and industry curriculums at different levels should be modified.
- (4) Due recognition should be given to the work done in specialised institutes of scientific research.
- (5) In order to bring uniformity in the character and standard of education in all the states a fifteen year education system should be introduced. This system of education is quite often called as 10+2+3 system.
- (6) For national integration, study of three languages was recommended. English and Hindi were considered necessary for all students and in addition to these two languages a student was expected to study one of the regional languages.

No doubt this policy was in accordance with the requirements of the country however, many difficulties were encountered in its implementation. During the 1980's, it was felt that education policy did not get translated into desired results. Problems of access, quality, quantity, utility and financial outlay accumulated over the years. The expansion of higher education since then has been completely unplanned. Also, India being a poor nation, large number of people could not engage in the fulltime pursuit of education, therefore, the country needed institutions which could impart education through correspondence or in the evening. Also standard of education was not as desired, along with high percentage of failure and drop-outs. Primary education was also left neglected with schools particularly in rural areas being in deplorable condition and without competent teachers.

In 1985, government formulated its new economic policy to tackle all these challenges. The National Policy on Education was announced in 1986. It envisaged universalisation of primary education and adult literacy by 1990. It gave high priority to qualitative improvement of education, especially technical and higher education, vocationalisation of secondary education and development of regional languages. The revised National Policy on Education, 1992 was in line with the earlier policy. It like the other policy did not go much beyond a remarkable collection of platitudes. As a matter of fact, these policies have opened the door to further inconsistencies such as: confusion of objectives, inconsistencies between stated goals and actual policy and a

contradiction between stated goals and resource allocation.

The formulation of a more effective policy must begin with the elementary task of setting clear goals that are adequately ambitious yet realizable, devising practical measures to meet, and providing the resources to implement these measures.

#### ROAD AHEAD

The last two decades have witnessed a sea change in technology, especially with respect to communication technology through internet and mobile phones. Therefore, there is a need to overview the National Policy on Education to deal with challenges faced by the modern and globalised India. In view of the present problems of India's education system the Government of India has proposed to formulate a new education policy aimed at meeting the challenges posed by lack of quality, research and innovation in our education system. In the last two decades the education scenario has seen a monumental change with the emergence of several new paradigms like rights based approach to elementary education, the endeavour to extend universalization to secondary education, reshape the higher education scenario and its impact on the innovation environment and providing an impetus to skill development through vocational education in the context of the emergence of new technologies in a rapidly expanding economy placed in a globalised environment. 10 goal posts of research of nationally relevant themes have been identified, these include healthcare, energy, sustainable urban design, nano technology, electronic hardware, defence, affordable housing, water resources and advance material. In addition to this the government felt the need to involve parents in the education system by providing them updates of their wards in government schools. Another major initiative proposed is to launch massive online courses in which faculties of IIT's, IIM's and central universities would be offered online. Further, there is proposal to make campuses across the country WiFi enabled.

Another milestone in the history of India's education policy was the Constitution (Eighty-sixth Amendment) Act, 2002 which inserted Article 21-A in the Constitution of India to provide free and compulsory education of all children in the age group of six to fourteen years as a Fundamental Right in such a manner as the State may, by law, determine. The Right of Children to Free and Compulsory Education (RTE) Act, 2009, which represents the consequential legislation envisaged under Article 21-A, means that every child has a right to full time elementary education of satisfactory and equitable quality in a formal school which satisfies certain essential norms and standards.

Article 21-A and the RTE Act came into effect on 1 April 2010. The title of the RTE Act incorporates the words 'free and compulsory'. 'Free education' means that no child, other than a child who has been admitted by his or her parents to a school which is not

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## UGC's Dubious Manifesto On Higher Education In The 12th Five Year Plan

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The University Grants Commission recently published a 129-page document titled Inclusive and Qualitative Expansion of Higher Education which spells out the Commission's vision for higher education in the country for the 12th Five Year Plan (2012-17). The document consists of the deliberations of a working group set up for the purpose and envisages a 'quantum jump' in higher education with the three objectives of access, equity and excellence.

**A**mong the major proposals is a mission mode national programme to be called Rashtriya Uchha Shiksha Abhiyan (RUSA) geared to achieve 25% national level Gross Enrollment Ratio. The document notes that the GER in higher education in India (13.2%) is just about half the world's average (24%) and about two thirds that of the developing countries (18%), and scandalously below that of the developed nations (58%). With enrollment already exceeding two million in the universities and 13 million in colleges, a massive expansion in infrastructure and investment would be required. The initiatives proposed to achieve the desired levels of GER between 23.5 and 27% would need an amount of Rs 1,84,740 crore, the document states.

Balancing the three objectives is obviously going to be the biggest challenge. For example, with the rural GER at 7.8 and the urban at 27.2, far greater effort would be necessary to reduce if not bridge the gulf while also chasing higher

standards of excellence. To accomplish its objectives, the document recommends a variety of important measures such as a greater induction of information technology, the upgrading of Academic Staff Colleges to Faculty Development Centres, an 'affiliation reforms package', the establishment of a national data bank on higher education and a national monitoring cell, and the creation of a Diversity in Higher Education Index (DHEI). No less significant is the proposal to introduce a 'de-bureaucratized' higher education management system which would be used-friendly, transparent and quick to respond. Further, the document correctly emphasizes that the prevailing regional, social and gender imbalances need to be tackled through a pro-active approach. So far, it is all sweet and good.

But the poison pills secretly tucked away in the many folds of the perfumed document begin to pop out soon enough. 'The Central and the State Universities should





be statutorily required,' the documents states, 'to adopt revision of fee structure payable by the students by at least 10% for every three year period.' Statutorily required, no less! Why? Clearly, to ensure a regular return to the private investors. Corporate social responsibility ought to be, well, underwritten! And complementary to the proposed business model are the so-called 'newer' models of public-private partnership in higher education, which are all devised to favour the private sector to the blatant disadvantage of the public and the government. According to the first, termed as the Basic Infrastructure Model, the private sector invests in infrastructure and the government runs the operations and management of the institutions in turn, making annualized payments to the private investor. In the second, the Outsourcing Model, private sector invests in infrastructure and runs operations and management and the responsibility of the government is to pay the private investor for the specified services. The third, Equity/Hybrid Model, is about investment in infrastructure being shared between government and private sector while operation and management are vested with the private sector. The third, termed as Reverse Outsourcing Model requires the Government to invest in infrastructure while the private sector takes the responsibility of operation and management.

This is virtually a manifesto of the neoliberal profiteering ideology, inviting its wealthy corporate adherents to come and dig their fangs and claws into the body of 'the commons'. UGC's precious gift on the 20th anniversary of the wedding between the Indian government and the corporate sector! Indeed, the 'newer' models are the core of the entire document. As one reads on, the word 'reform' begins to sound, yet again, as a smart coinage to denote strategies of restructuring higher education as a vast profit reserve for the corporate sector. Significantly, the urge to push through the 'newer' models is touted as a virgin push: there is no accompanying report on the outcome of the entry of the private sector in higher education during the last two decades. A certain urgency, on the contrary, painted in broad strokes is made to cover up the absence of detail on this count. The strategy is not new. You first set unrealistic targets (Rs 1,84,740 crore), take a clever step from the prophetic to the fatalistic, and then throw the gates open to those who would smell the flesh.

The picture becomes clearer when we read how casually and 'economically' the 'poorer sections' are disposed of. The document invokes the 'economic divide', but then goes on to make meaningless noises. It does not even pay lip service to the economically disadvantaged as such; in fact, it mentions no figures of their GER. Poverty, as if, afflicts

people only when religion and caste are branded on their bodies. So this is what the document has to say, obviously to just get rid of the burden of guilt: 'The poorer sections of the society have much lower GER compared to others.... The worst condition is faced by the casual wage labour which is a socio-economic problem which has serious implications.' No data. Not a single concrete measure. Only platitudes and clichés. Why not something as concrete as the ten percent 'revision of fee structure payable by the students'? If someone feels enraged enough to describe the document as socially divisive, can he be blamed? For the differently-abled also, the document merely says that 'they need special care and separate interventions'. It does not specify a thing.

Rather cautiously and shyly, the document proposes 20 exclusive universities for women. Perhaps those who thought up this funny notion had bought some 1960s radical feminist text from the Sunday book bazaar in Daryaganj, read it without checking its year of publication, and were too thrilled to even cross-check with others in their group – for the same document states that the GER, in 2007-08, for men is 19.0 and for women 15.2. Certainly not a scenario so dark as to compel women's confinement to 'exclusive' zones. This is silly and reverse, if not something downright criminal and reactionary, social engineering. And of course, another side of the divisive 'liberal' agenda.

Just as the document does not forget to mention the need for 'engagement with social concerns' without at all demonstrating it convincingly (except to consolidate a vote bank politics of separate identities based on caste, tribe, religion and gender), it remembers the need for 'new pedagogical practices' too. What exactly it means by these, it leaves to the reader to figure out. Are those practices rather obvious? I would think not. Thinking them demands thinking hard and innovatively. A difficult thing, no doubt. The last thing I want to point out here – though there is much more to say. The document speaks of a balanced higher education in which liberal arts find a place too: 'A fine balance between the market oriented professional and liberal higher education shall be the hallmark of such initiatives.' But it stops there, never telling how higher education in the liberal arts is going to be updated to meet the challenges and opportunities of the current times. Along with other – some really commendable – initiatives, the UGC should consider establishing multidisciplinary Centres for Contemporary Studies which would focus on understanding the complexity of the present as a connected node between the past and the future. Actually, the UGC's 12th Plan document itself should be among the objects of study in such centres. ■





# Needed Value-Based Vocational Education

By A Special Correspondent

**W**hen was the last time you tried to fix a blown electrical fuse at your home or a leaking tap in the kitchen? Some of us do it when needed, mostly out of compulsion but for most of us these odd jobs are better handled by electricians and plumbers. It's good that we have such services available all the time, but wouldn't it have been better if we also learnt such skills in our schools? The attitude towards such jobs in Indian society speaks a lot about the way we treat manual jobs. We've always relegated them for low achievers, creating a false value system that attaches high dignity to academic achievements. It is a sad reflection on the way of schooling that ignores the need for holistic and inclusive learning that comprises manual tasks and skills. It is also the main reason for the huge skill deficit we are facing in our industries, in spite of producing thousands of unemployable graduates. And quite unquestionably, this is also a mindset issue that equates high dignity academics with high dignity jobs and conditions the children to fit into these rigid frameworks.

## PARENTAL ATTITUDE AND SOCIAL PRESSURE

It is normal for almost every Indian parent to aspire for their child to achieve professional degrees in the fields of engineering and management. Parental aspirations and societal pressures would never allow these children to even discover and recognize their innate talents and skills. There are very few parents who would encourage their children to become carpenters or mechanics by choice. They would be happy if the children become engineers without ever knowing anything about the vocational aspects of these disciplines. Understandably so, because vocational curriculum is perceived as playing a second fiddle to the mainstream curriculum – the 'diploma' could never match the respect and value of a 'degree'. These two curricula have remained parallel, one emphasizing the academic and the other focussing on the technical/vocational skills. This dichotomy is one of the obvious reasons for a skewed system of education that relegates the vocational training for 'low-achievers'.

## MAKING VOCATIONAL EDUCATION MANDATORY

The missing link between the industry and skilled workforce is best established by reviewing the need for mandatory vocational education for higher classes. The issues surrounding vocational education can be approached with fresh mindset to position it rightly as a means for providing industry-ready workforce that meets the demands of the job market. Most importantly, we need to rethink the values assigned to vocational education in a society that places a high premium on academic qualifications rather than individual inclinations and industry requirements.

Today, vocational education is no option; it needs to be made mandatory and inclusive. To make the existing curriculum meaningful, and to sensitise and introduce children to different options in higher learning, vocational learning should be emphasised in higher classes. Besides creating market ready workforce equipped with basic skills, this will identify, promote and nurture innate talent that helps in significantly reducing the dropout rate that would otherwise join the unorganized workforce. A well-planned credit-based skills oriented curriculum could successfully initiate the children into the vocational areas. This will expose them to the different skills and show alternative paths to those who are not interested in higher studies and those who seek immediate employment for various reasons.

## INTEGRATED CREDIT TRANSFER SYSTEM

Credit-based system seamlessly integrates the industry-academia requirements in terms of vocational and technical education by providing different threshold levels. It works on the principle of offering different options to students who have different priorities by adapting National Skills Qualification Framework (NSQF) that organizes qualifications according to a series of levels of knowledge, skills and aptitude. For the set of students who wish to pursue professional courses or university courses, the credits get added to their respective practical components. Let's assume that a student has earned some credits in high school for mechanical skills, these credits would be counted if the students joins a course in engineering. And, for students who wish to get into specialised vocational courses, the credits will get added to their respective diplomas and they may even get exempted from certain practical components. For those who wish to enter into the job market directly after schooling, their apprenticeship programmes can be tailored to recognise the credits they've earned in their schools. The mindless rush for academic degrees without any awareness or realization that one needs to get employed has already created highly imbalanced ratio between the skilled-employable and unskilled-unemployable workforce. It's high time we thought about dignity of education alongside dignity of labour. The discrimination of jobs as white-collared or blue-collared could be one of the reasons that attract a huge number of students to seek entry into higher education even if they do not have an aptitude for it, leading to dissatisfied and demotivated youth who finally end up in unorganized jobs. It would have been easy to channelize such potential workforce and align them with the mainstream job market, if they were exposed to vocational learning at school. This situation also calls for bringing in parity between academic and vocational streams, by integrating them to come up with different threshold levels mapped with credits. ■





## 282 Mn Illiterates: Indian Education In Deep Crisis



A country with 35% young population has 282 million illiterate people. The Ministry of Human Resource Development (MHRD), which handles school/higher education and adult literacy, grows richer every year, but it still accounts for only 5% of the government's expenditure of over Rs 17 lakh crore (\$289 billion). According to World Bank data, Average public spending on education across the world was 4.9% of GDP in 2010 while India spent only 3.3% of GDP.

Literacy continues to be a huge challenge for India, after six decades of independence. The literacy rate has steadily improved, but too many people are still illiterate. Since the government is expected to focus on skill development, the challenge is to improve the education infrastructure and monitor outcomes.

the richest young women in India have already achieved universal literacy but the poorest are projected to only do so around 2080, noting that huge disparities within India point to a failure to target support adequately towards those who need it the most. In the wealthier states of Maharashtra and Tamil Nadu, most rural children reached grade 5 in 2012 and only 44 per cent of these children in the grade 5 age group in Maharashtra and 53 per cent in Tamil Nadu could perform a two-digit subtraction. The Rights of Children to Free and Com-

pulsory Education Act (usually abbreviated to Right to Education, or RTE), In the words of the Department of Education, the RTE is designed to ensure "that every child has a right to full time elementary education of satisfactory and equitable quality in a formal school which satisfies certain essential norms and standards" Alongside the RTE came the Rashtriya Madhyamik Shiksha Abhiyan, or RMSA. The RMSA aims to improve both quality and access to secondary education for 15-18 year olds, with the objective of increasing enrolment from just over half in 2005-6 to 75% by 2017.

Policy makers should pay attention to the education sector in order to make India a powerful, stable, and strong country.

On the other hand, we have some certain locations at school where we find several opportunities to shape different elements of personality like class room, library, labs, play ground, morning assembly, inter/intra class competition. These locations are full of activities such as greeting, explaining, demonstrating, reading, writing, communicating, questioning, answering, reinforcing, selecting books, maintaining silence, comprehending, note making, filing, experimenting, handling, observing, sharing, playing, forming team, cooperating, running, applauding, planning, praying, meditating, thinking, staging, dramatizing, searching, preparing, practicing etc. ■





# Challenges for India's Education System

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## SUMMARY

This paper, the first on India's education system, places the current issues facing education in India in a historical context.

• Since Independence, successive Indian governments have had to address a number of key challenges with regard to education policy, which has always formed a crucial part of its development agenda. The key challenges are:

- improving access and quality at all levels of education;
- increasing funding, especially with regard to higher education;
- improving literacy rates.
- Currently, while Indian institutes of management and technology are world-class, primary and secondary schools, particularly in rural areas, face severe challenges.

• While new governments commonly pledge to increase spending on education and bring in structural reforms, this has rarely been delivered in practice.

• Most of the changes undertaken by the previous BJP-led government were aimed at reforming the national curricula, and have been criticized for attempting to 'Hindu-ize'

India's traditionally secular education system.

• Improving the standards of education in India will be a critical test for the current

Congress-led government. It will need to resolve concerns over the content of the

curriculum, as well as tackling the underlying challenges to education.





## INTRODUCTION

India's educational system turns out millions of graduates each year, many skilled in IT and engineering. This manpower advantage underpins India's recent economic advances, but masks deep-seated problems within India's education system. While India's demographics are generally perceived to give it an edge over other countries' economies (India will have a youthful population when other countries have ageing populations), if this advantage is restricted to a small, highly educated elite, the domestic political ramifications could be severe.

With 35 per cent of the population under the age of 15, India's education system faces numerous challenges. Successive governments have pledged to increase spending on education to 6 per cent of GDP, but actual spending has hovered around 4 per cent for the last few years. While, at the top end, India's business schools, Indian Institutes of Technology (IITs), Indian Institutes of Management (IIMs) and universities produce globally competitive graduates, primary and secondary schools, particularly in rural areas, struggle to find staff.

Indian governments have seen education as a crucial development tool. The first part of this paper provides a historical perspective on the development of the education system in India, highlighting the changing emphases within government policy. Since Independence, the education policies of successive governments have built on the substantial legacies of the Nehruvian period, targeting the core themes of plurality and secularism, with a focus on excellence in higher education, and inclusiveness at all levels. In reaching these goals, the issue of funding has become problematic; governments have promised to increase state spending while realizing the economic potential of bringing in private-sector financial support.

The second part of this paper examines how recent governments have responded to these challenges, which have remained largely unchanged since Nehru's era, despite the efforts of past governments and commissions to reform the Indian education system. Attention will be paid to more recent policy initiatives, both those of the previous BJP-led administration and the proposals of the current Congress-led United Progressive Alliance. It will become clear that the same difficulties that existed nearly sixty years ago remain largely unsolved today – for example, the need to safeguard access to education for the poorest and most disenfranchised communities of India.

## THE EVOLUTION OF INDIA'S EDUCATION POLICY ELITISM, NEHRUVIANISM AND DEVELOPMENT

Traditional Hindu education served the needs of Brahmin families: Brahmin teachers would teach boys to read and write. Under the Moguls, education was similarly elitist, favouring the rich rather than those from high-caste backgrounds. These pre-existing elitist tendencies were reinforced under British rule.

British colonial rule brought with it the concept of a modern state, a modern economy and a modern education system. The education system was first developed in the three presidencies (Bombay, Calcutta and Madras). By linking entrance and advancement in government service to academic education, colonial rule contributed to the legacy of an education system geared to preserving the position and prerogatives of the more privileged. In the early 1900s, the Indian National Congress called for national education, placing an emphasis on technical and vocational training. In 1920 Congress initiated a boycott of government-aided and government-controlled schools and founded several 'national' schools and colleges. These failed, as the rewards of British-style education were so great that the boycott was largely ignored. Local elites benefited from the British education system and eventually used it to expel the colonizers.

Nehru envisaged India as a secular democracy with a state-led command economy. Education for all and industrial development were seen as crucial tools to unite a country divided on the basis of wealth, caste and religion, and formed the cornerstones of the anti-imperial struggle. Following Independence, school curricula were thus imbued with the twin themes of inclusiveness and national pride, placing emphasis on the fact that India's different communities could live peacefully side by side as one nation.

The legacies of this Nehruvian approach to education are considerable; perhaps most notable is the entrenchment of the pluralist/secularist perspective in the minds of the Indian people. Subsidized quality higher education through institutions such as the IITs and IIMs formed a major contribution to the Nehruvian vision of a self-reliant and modern Indian state, and they now rank amongst the best higher education institutions in the world. In addition, policies of positive discrimination in education and employment furthered the case for access by hitherto





unprivileged social groups to quality education. It has been argued that while access for some marginalized communities continues to be limited, the upward mobility of a few Dalit and tribal households resulting from positive discrimination in educational institutions and state patronage has created role models that help democracy survive in India.

#### THE KOTHARI COMMISSION: EDUCATION FOR MODERNIZATION, NATIONAL UNITY AND LITERACY

Drawing on Nehru's vision, and articulating most of his key themes, the Kothari Commission (1964–6) was set up to formulate a coherent education policy for India.<sup>1</sup> According to the commission, education was intended to increase productivity, develop social and national unity, consolidate democracy, modernize the country and develop social, moral and spiritual values. To achieve this, the main pillar of Indian education policy was to be free and compulsory education for all children up to the age of 14. Other features included the development of languages (Hindi, Sanskrit, regional languages and the three-language formula<sup>2</sup>), The Challenges for India's Education System<sup>3</sup> equality of educational opportunities (regional, tribal and gender imbalances to be addressed) and the development and prioritization of scientific education and research. The commission also emphasized the need to eradicate illiteracy and provide adult education. India's curriculum has historically prioritized the study of mathematics and science rather than social sciences or arts. This has been actively promoted since the Kothari Commission, which argued that India's development needs were better met by engineers and scientists than historians. The perception has remained that students only study social science or arts subjects as a last resort, though recently commerce and economics have risen in stature.

#### THE NEED FOR CHANGE: THE NATIONAL POLICY ON EDUCATION

In 1986, Rajiv Gandhi announced a new education policy, the National Policy on Education (NPE), which was intended to prepare India for the 21st century. The policy emphasized the need for change: 'Education in India stands at the crossroads today. Neither normal linear expansion nor the existing pace and nature of improvement can meet the needs of the situation.'<sup>3</sup>

According to the new policy, the 1968 policy goals had largely been achieved: more than 90 per cent of the country's rural population were within a kilometre of schooling facilities and most states had adopted a common education structure. The prioritization of science and mathematics had also been

effective.

However, change was required to increase financial and organizational support for the education system to tackle problems of access and quality. Other problems also needed addressing:

*India's political and social life is passing through a phase which poses the danger of erosion to long accepted values. The goals of secularism, socialism, democracy and professional ethics are coming under increasing strain.*

The new policy was intended to raise education standards and increase access to education. At the same time, it would safeguard the values of secularism, socialism and equality which had been promoted since Independence. To this end, the government would seek financial support from the private sector to complement government funds. The central government also declared that it would accept a wider responsibility to enforce 'the national and integrative character of education, to maintain quality and standards'.<sup>5</sup> The states, however, retained a significant role, particularly in relation to the curriculum. The central government committed itself to financing a portion of development expenditure, and around 10 per cent of primary education is now funded under a centrally sponsored scheme. The key legacies of the 1986 policy were the promotion of privatization and the continued emphasis on secularism and science.

Another consequence of the NPE was that the quality of education in India was increasingly seen as a problem, and several initiatives have been developed since in an attempt to counter this:

- **Operation Blackboard (1987–8)** aimed to improve the human and physical resources available in primary schools.
- **Restructuring and Reorganization of Teacher Education (1987)** created a resource for the continuous upgrading of teachers' knowledge and competence.
- **Minimum Levels of Learning (1991)** laid down levels of achievement at various stages and revised textbooks.
- **National Programme for Nutritional Support to Primary Education (1995)** provided a cooked meal every day for children in Classes 1–5 of all government, government-aided and local body schools. In some cases grain was distributed on a monthly basis, subject to a minimum attendance.







- **District Primary Education Programme (DPEP) (1993)** emphasized decentralized planning and management, improved teaching and learning materials, and school effectiveness.

- **Movement to Educate All (2000)** aimed to achieve universal primary education by 2010 through micro-planning and school-mapping exercises, bridging gender and social gaps.

- **Fundamental Right (2001)** involved the provision of free and compulsory education, declared to be a basic right for children aged between 6 and 14 years.

Other schemes specifically targeted at marginalized groups, such as disabled children, and special incentives targeting the parents within scheduled castes and scheduled tribes have also been introduced.

In 1992, when education policy was re-examined, the NPE was found to be a sound way forward for India's education system, although some targets were recast and some reformulations were undertaken in relation to adult and elementary education.<sup>7</sup> The new emphasis was on the expansion of secondary education, while the focus on education for minorities and women continued.

#### THE DEVELOPMENT OF NON-FORMAL EDUCATION

Despite Nehru's visions of universal education, and the intentions of the Kothari Commission to provide all young children with free and compulsory schooling, a significant proportion of India's young population remained uneducated by the 1970s. To address this problem, the Centrally Sponsored Scheme of Non Formal Education was set up to educate school dropouts, working children and children from areas without schools. It started on a pilot basis in 1979 and expanded over the next few years to cover ten educationally backward states.<sup>8</sup> In the 1980s, 75 per cent of those children not enrolled in school resided in these states.

**4 The Challenges for India's Education System** The 1986 National Policy on Education built upon this scheme and recognized that a large and systematic programme of non-formal education was required to ensure access to elementary education. The NPE developed the system of non-formal education, and expanded it to urban slums and other areas beyond the initial ten states. It also revised the system, involved voluntary organizations and offered training to local men and women to become instructors. For instance, the Non-formal Adult Education for Women based in Lucknow (UP) opened 300 centres in rural areas with

financial support from UNESCO. As a result of many such local programmes, literacy rates improved significantly between 1981 and 1991: male literacy increased from 56.5 per cent to 64.2 per cent while female literacy increased from 29.9 per cent to 39.2 per cent.

#### CURRENT CHALLENGES AND PROPOSALS FOR REFORM

##### Primary and secondary education: access, quality and literacy

Despite efforts to incorporate all sections of the population into the Indian education system, through mechanisms such as positive discrimination and non-formal education, large numbers of young people are still without schooling. Although enrolment in primary education has increased, it is estimated that at least 35 million, and possibly as many as 60 million, children aged 6–14 years are not in school. Severe gender, regional, and caste disparities also exist. The main problems are the high drop-out rate, especially after Class 10, low levels of learning and achievement, inadequate school infrastructure, poorly functioning schools, high teacher absenteeism, the large number of teacher vacancies, poor quality of education and inadequate funds. Other groups of children 'at risk', such as orphans, child-labourers, street children and victims of riots and natural disasters, do not necessarily have access to schools.<sup>10</sup>

Furthermore, there is no common school system; instead children are channelled into private, government-aided and government schools on the basis of ability to pay and social class. At the top end are English-language schools affiliated to the upscale CBSE (Central Board of Secondary Education), CISCE (Council for the Indian Schools Certificates Examination) and IB (International Baccalaureate) examination boards, offering globally recognized syllabuses and curricula. Those who cannot afford private schooling attend English-language government-aided schools, affiliated to state-level examination boards. And on the bottom rung are poorly managed government or municipal schools, which cater for the children of the poor majority.

Therefore, while education for all is safeguarded by the Constitution, and a majority of people can now access educational resources, the quality of the education that young people in Indian receive varies widely according to their means and background, which is a worrying and problematic trend.

In India's 600,000 villages and multiplying urban slum habitats, 'free and compulsory education' is in fact basic literacy instruction dispensed by barely qualified 'para teachers'.<sup>11</sup>





The thrust on elementary education over the last two decades and the growing aspirations of poor communities resulting from their participation in a political democracy have already led to a situation where most children at age six are enrolling in schools/learning centres and residential bridge courses. However, the poor quality of these schools and their rudimentary physical and human infrastructure often lead to children dropping out of the school system without learning or continuing in it with limited learning. An emphasis on food, livelihood and health guarantees is therefore simultaneously required to level out the initial disadvantages of the poor in the educational sphere stemming from malnourishment, poverty, and health-related debility.

The present Indian government, the United Progressive Alliance, appears to be committed to confronting these challenges, as reflected in their Common Minimum Programme (see below). The introduction of a 2 per cent education cess (surcharge) on tax, a stress on employment guarantees and the establishment of a National Rural Health Mission are thus welcome developments in this respect.

India's aim of providing basic education for all stems from the empowering and redistributive impact of education. Until recently, literacy, and the related issue of access to schooling, have taken precedence over curricular content. J. Dreze and A. Sen argue:

Literacy is an essential tool for self-defence in a society where social interactions include the written media. An illiterate person is significantly less equipped to defend herself in court, to obtain a bank loan, to enforce inheritance rights, to take advantage of new technology, to compete for secure employment, to get onto the right bus, to take part in political activity – in short, to participate successfully in the modern economy and society.<sup>12</sup>

Dreze and Sen argue that the 1991 census indicated that about half of the adult population were unable to read or write.<sup>13</sup> Unsurprisingly, literacy rates vary widely between states, and between genders. The northern Hindi-belt states, whose economic performance has been worse than that of western and southern states, have lower literacy rates. Female literacy varies from around 34 per cent in Bihar to 88 per cent in Kerala; male literacy varies between 60 per cent in Bihar and 94 per cent in Kerala. Rajasthan suffers the widest gender difference: female literacy stands at 44 per cent; male at 77 per cent. One of the main aims of education policy in the 1990s was to accelerate the progress of literacy

and school attendance and to create an equitable system for girls,<sup>14</sup> as had been planned by the Kothari Commission in 1964.<sup>15</sup>

In recent years, however, attention has shifted away from the provision of basic literacy skills and towards debates surrounding the content of school curricula. These debates have been particularly concerned with the traditionally secular emphasis within education, which has become vulnerable since the successes of avowedly Hindu political parties.

#### CURRICULA CONTENT

The BJP, which dominated coalition governments from 1998 until 2004, initially came to power with an agenda heavily influenced by Hindutva, including the introduction of a uniform civil code under Hindu law and the construction of the Ram temple in Ayodhya.<sup>16</sup> Since a significant proportion of the BJP's electoral constituency comes from right-wing Hindu organizations, such as the Rashtriya Swayamsevak Sangh (RSS) and the Vishwa Hindu Parishad (VHP), it was expected that the government would further the rather chauvinist aspirations of these groups. However, in most policy fields it took a moderate stance, since it needed to maintain the support of its coalition partners, many of which were regional and secular in nature.

But the reverse occurred in the field of education. The 1999 election manifesto of the National Democratic Alliance (NDA) included a section entitled 'Education for all', which appeared in harmony with the reforms implemented under Rajiv Gandhi. The preamble stated that 'State support for education has been wholly inadequate. Quality education is fast becoming the preserve of the social and economic elite of the country.'

When the NDA came to power in 1999, the BJP kept control of the two most senior positions in the Ministry of Human Resource Development, which included education policy. Two party hardliners, Murli Manohar Joshi and Uma Bharti, took the positions of Union Minister and Minister of State respectively. The former oversaw the expansion of the network of RSS schools and the appointment of RSS members or sympathizers to top national education bodies. In 2000/01, the National Council of Educational Research and Training (NCERT)<sup>17</sup> issued a National Curriculum Framework for school education under the slogan of 'Indianize, nationalize and spiritualize'. The framework called for the purging of all foreign elements from the curriculum in state schools. These included the British legacy as well as





aspects of Indian culture which were seen as having been introduced by the Mogul invaders.

The new policy involved a massive textbook revision. The revisions were contested by a petition to the Supreme Court brought by three activists who argued that the NCERT had not followed the correct procedures of consultation with the states and that it had tried to introduce religious teaching, which is forbidden by the Constitution. However, the Supreme Court rejected this petition. The new history and social science textbooks were accused of promoting an anti-minority outlook through flaws and omissions.

The BJP argued that it was correcting formerly one-sided interpretations of history. Sixteen pages in three history textbooks in years 6, 7 and 11 were removed. These included a paragraph suggesting that there was no archaeological evidence of settlements in and around Ayodhya around 2000 BC. In an interview Murli Manohar Joshi explained that the changes were made following complaints from Jains, Sikhs, Jats and others who felt aggrieved by the events depicted in the old textbooks:

We examined them and the NCERT made a decision to delete them. (...) Certain authors of history have tried to distort history. They have given it a purely leftist colour. They say that India had no history of its own because they are guided by Marx. They teach the history of a nation that was mainly defeated and conquered by foreign powers. It's a travesty of facts and an attempt to kill the morale of a nation.<sup>21</sup>

Aside from accusing India's historians of an underhand communist agenda, Joshi also denied that the RSS had been involved in the process,<sup>22</sup> arguing that, in science books, discoveries were falsely credited to the Western world: 'Was the invention of computers possible without the invention of the Indian binary system, zero and one?'<sup>23</sup>

The changes were an attempt to increase pride in being Indian, but concerns were raised that Indian culture was presented as Hindu culture, ignoring India's pluralistic roots and the contributions of Muslim and other minorities. This was a reversal of the Nehruvian view of the roots of India's education system. The Human Resource Development Minister responded to the widespread criticism from the historical profession by calling the criticism 'intellectual terrorism unleashed by the left ... more dangerous than cross border terrorism'.<sup>24</sup>

The press described the moves as the 'saffronization' of education, and it became a national issue in 2001 when

non-BJP parties within the NDA said that even if the Human Resource Development Ministry insisted on the new curriculum, they would not accept the changes in the states they ruled. There were two main criticisms of the new education policy: first, that they were directed by the communal agenda of the Sangh Parivar and were contrary to the principles enshrined in the Constitution; and, second, that education was the responsibility of the states and changes could not be centrally imposed.

In Delhi, the Congress chief minister, Sheila Dikshit, said she had no problems with the old textbooks and would happily have reprinted them. However the NCERT refused permission and insisted that the new textbooks with the historical revisions be used. So, instead, the Delhi state government created its own books.<sup>25</sup>

Aside from what was happening in state schools, the RSS started to expand its influence in education and health. The first RSS-backed school had been established in 1952 by some RSS members whose aim was to contribute to 'nation-building' through education. There are now more than 50 state and regional committees affiliated to Vidya Bharati, the largest voluntary association in the country.<sup>26</sup> These coordinate around 13,000 institutions with 74,000

6 The Challenges for India's Education System teachers and 1.7 million students.<sup>27</sup> The expansion of RSS schools was a major pillar in this strategy, essentially circumventing the traditional separation of education and religion. This expansion has been funded in various ways, including through charities operating in the West. According to a recent report published by Awaaz, a London-based secular network, almost a quarter of Sewa International earthquake funds raised from the UK to help Gujarat were used to build RSS schools.<sup>28</sup>

RSS teaching is centred on knowledge of culture or Sanskrit Gyan. The RSS, however, also sponsored an agenda paper on education that the central government tried to present before the Conference of State Education Ministers in October 1998, suggesting that these and similar texts could in the future be made compulsory for all schools.

RSS schools teach a Hindu-centric world view, which works both to highlight the difference between Hindus and non-Hindus and at the same time to emphasize the role of Hinduism as the source of all human wisdom. The proposed legislation to legalize RSS schools, enabling them to receive state funding, would be a significant policy change for a





country so traditionally committed to the provision of secular education. As Nalini Taneja observes: "Through a directive that makes all schools running for 10 years automatically entitled to affiliation and recognition, the BJP govt. has ensured large transfers of state funds to RSS schools in the states of BJP govt., especially if it can be easily shown that govt. schools are not functioning well."

While there is doubt about the impact of the 'saffronization' of the education system,<sup>30</sup> nonetheless it was this issue that the UPA government tackled first. Only a few weeks after the elections, on 12 June 2004, the government ordered a panel of historians to be constituted to advise on the issues of communalization and inadequacies of the history textbooks of the NCERT. The three history professors, S. Settar, J.S. Grewal and Barun De, submitted a report which concluded that 'the textbooks prepared since 2000 are so full of errors and sub-standard that we find it impossible to recommend their continuation'.<sup>31</sup> The panel acknowledged that though there are different interpretations with regard to historical facts, at school level history teaching should reflect a consensus. The Executive Committee of the NCERT subsequently issued a note to all schools, explaining that the report had been accepted, but that because the academic session 2004/05 was too advanced the books would not be withdrawn until the 2005/06 academic year. The note also gave some advice on how to cope with flaws in the history books, detailing errors and page numbers and promising to reprint and make available the old textbooks. It also emphasized that history was not to be used for political purposes:

The past has a value of its own and distinctive fact of its own, not to be twisted for present purposes, either of the state or regional predilections of that element of the past as it was, distinct from the past as we would like it to be today.<sup>33</sup>

The Minister of Human Resource Development made a statement in parliament on 20 July 2004, promising to restore the earlier books in the next academic session. However the exercise has flagged up the flaws in the old textbooks, which were seen as too dry, and lacking narrative and emotion. While the government will try to address this in the medium term, in the short term it will focus on restoring pedagogy 'which helps raise questions and prevents indoctrination'.<sup>34</sup> The curricula changes introduced by recent BJP-led governments indicated a shift from the Nehruvian tenet of secular education and diverted attention from more deep-seated structural problems in India's education system, such as the need for universal access to quality education. But for non-BJP parties, the development of a Hindu-centric

education system presents a major political concern and, as is inevitable in a representative democracy, political issues take precedence over more substantive issues. The challenge for the present government will be to move past this political obstacle and push through more comprehensive reforms, rather than simply undoing the policies of its predecessor.

#### FUNDING AND HIGHER EDUCATION

Under the Constitution, responsibility for education is shared between central and state governments. The central government sets policy, stimulates innovation and plans frameworks. The state governments are responsible for running the education system on the ground. This has exacerbated problems since states have differing resources to allocate to education. It is the inadequacy of resources that has recently become the most pressing and central issue. Allocation is another issue. When resources are scarce, what are the state's priorities? In general southern, richer states do better than the poorer, northern ones. According to India Together reporter Summiya Yasmeen:

The Central and state governments are hard put to mobilise 4 per cent of GDP for education. (...) With 59 million children out-of-school and another 90 million in school learning very little, the common school system is not a utopian ideal dug out from the archives of the Kothari Commission, but an imperative that will decide India's place in the comity of nations.

The standard of educational facilities, and the quality of education, are generally higher in primary and secondary schools in richer states than poorer ones, such as Bihar and Jharkhand. In higher education, differing availability has itself contributed to the economic differences. The IT-based success of southern states owes much to their higher number of engineering colleges, and consequent greater pool of graduates.

The number of engineering colleges demonstrates incredible diversity, and has helped contribute to the concentration of high-technology industry in southern India. But the disparity between these states and northern states is dramatic; Bihar, for instance, has less than one engineering college for every 10 million people in the state; Tamil Nadu has almost four colleges for every million people.<sup>38</sup> The growth of the IT and BPO (Business Process Outsourcing) industries and the concomitant spread of computer use and application in the private sector has had a significant impact on the expansion of the highly skilled labour market, and thus on higher education. In fact, private-sector education is a growing





field in itself, estimated to make up nearly 2 per cent of GDP. Unfortunately, this top-quality education is restricted not only geographically to those areas where the IT industries are based (as we have already seen), but also according to ability to pay, as the private-sector educational institutions charge prohibitive fees.

Negotiating the need to share the burden of funding higher education between the public and private sectors has been a continual problem for the Indian government. For example, the 1986 reforms reinforced the independent status of higher education institutions, but led to a gradual decline in government expenditure in this area. The government faced a serious resource crunch and decided to reduce the subsidization of higher education by around 50 per cent. Two committees were set up to mobilize additional resources for universities and technical education institutions. Universities were encouraged to raise fees and to turn to the private sector for additional funding.<sup>39</sup> Consequently, the balance between the public and private sectors becomes almost synonymous with a balance between excellence and access. While it is important for India to produce top-quality graduates, it is equally important that the opportunity to gain a degree is not restricted to privileged communities.

The University Grants Commission (UGC) holds a large measure of responsibility for negotiating this excellence/equity dilemma. It does not simply provide grants to universities and colleges, it also maintains, and tries to raise, academic standards in higher education, frames policies to this end and advises the central and state governments on the subject of expanding and improving higher education. However, the proportion of the education budget allocated to higher education has gradually decreased from 24 per cent in the 1970s to around 9 per cent today. This is posing a problem as Indian universities and colleges are of varying quality. Widening access is also an issue – only 6 per cent of those aged between 18 and 23 enter tertiary education.<sup>40</sup> Dilip Thakore asserts in *India Together*:

With the annual outflow of students fleeing India's second rate tertiary education institutions showing no signs of abating and a growing number of foreign universities clamouring to establish campuses in India even as government budgetary allocations for higher education are shrinking rapidly, UGC top brass have no option but to focus on their mandate to raise teaching and learning standards in academia and also to teach business illiterate college and university managements to gradually become financially independent.<sup>41</sup>

In the light of these recent trends and difficulties, the NDA manifesto pledged to ensure the independence of higher education institutions, but in fact control was centralized in the past few years. The party's proposals represented a tip in the balance away from public funding towards the private sector, but at the same time displayed a commitment to controlling the upper echelons of higher education institutions by appointing party sympathizers (including RSS members) to the top posts. In addition, pro-Hindutva policies were to have a notable impact on universities, colleges and other academic bodies, which critics argue amounted to a centralization of control over the education system.

Critics claimed that vice chancellors of various universities were appointed on the sole criterion of their sympathy with the new policies: In Delhi University, while the BJP was holding the State Government, all democratic norms were flouted and the functioning and role of the statutory bodies such as the Academic Council completely undermined. Governing Bodies of Delhi Administration and other colleges were filled with known sympathisers of no academic achievements or interest in education with a view to ensuring appointment of affiliated persons as Principals for the colleges. Appointments to teaching posts were similarly ensured through this process. These RSS filled Governing bodies were openly used for undermining the autonomy of the University, and giving support to corruption and goondaism [hooliganism] on the campus. In flouting and withdrawing many aspects of the agreement arrived at with the teachers last year, the BJP government is devaluing education itself.

The personnel changes were not confined to universities. New appointees to the Indian Council of Historical Research (ICHR) supported the VHP campaign on Ayodhya, while RSS supporters or sympathizers have been appointed to the Indian Council of Social Science Research (ICSSR), the Indian Institute of Advanced Studies in Simla, the Indian Institute of Mass Communication and the All India Council for Technical Education. Moreover, the National Museum galleries have been renamed and the choice of items displayed reflects the Sangh Parivar's view of Indian history. As mentioned above, the authority and autonomy of the University Grants Commission was undermined with regard to teachers' salaries, promotion and working conditions. The UGC was being used to commercialize education and to cut state funding. Personnel at the National Institute of Planning (NIEPA) and the NCERT were also changed.

The BJP's policies in this area have extended beyond educational institutions alone, and have had a considerable





impact on academia as a whole. These events have led to concern within academia. Sharad Pawar, leader of the Nationalist Congress Party, observed: 'Research scholars should not tarnish the image of inspiring personalities.'

The greatest success of the BJP's education policy has been neither the introduction of new textbooks nor the emergence of RSS activists at the helm of national education institutions. It is that the discriminatory discourse appears to have been accepted by the public, many of whom grew up with Nehru's secular ideals of constructing an inclusive Indian national identity. On top of the existing problems in the education system, the BJP added a further concern – that through education India's inclusive identity would be directly eroded.

Recent statistics on the expansion of tertiary-sector education highlight the scale of the problem faced by the new government for creating and implementing policy in this area. The number of colleges and universities across the country has risen from 565 and 25 in 1953 to 15,600 and 311 respectively in 2004. Simultaneously the number of students in higher education has risen from 230,000 to 9.28 million and the number of staff from 15,000 to 462,000. India produces over 2.5 million university graduates per year.

The commission for the Tenth Plan (2002–7) has set itself the target of identifying and designating 25 universities 'with potential for excellence' across the country. These institutions will be 'funded at a higher level to enable them to attain excellence in teaching and research', according to the UGC concept paper. Along with a few hundred colleges, they will be given full academic freedom to experiment with the curriculum, introduce innovations in teaching, conduct their own examinations and award joint degrees with affiliating universities.<sup>49</sup> In addition, quality control issues resulted in the creation of the National Assessment and Accreditation Council of India (NAAC) in 1994 with the objective of assessing and grading institutions of Higher Education on a scale from 1 to 5.

These proposals appear to reflect the need to invest in higher education to attain the high quality now demanded by the growing economy. The role of the NAAC is particularly important for achieving increased accountability for publicly funded institutions. Clearly, the current government understands the need for university subsidies, but it is not yet certain whether these subsidies will be directed so as to widen access to those communities traditionally excluded from tertiary education.

#### CONCLUSION

The educational changes introduced by the BJP did not play

a major role in the May 2004 general election. While access to education was an issue in some rural areas, roads, power, water and jobs were more important. The NDA manifesto on education had changed in emphasis, moving towards a more 'communal' and nationalistic stand.

Three points stand out:

- The focus on Indian culture, heritage, and ethical values in syllabuses will be strengthened.
- The downgrading of Bharatiya languages in school and college education will be checked. Teaching in the mother tongue will be encouraged.
- Efforts will be intensified for the propagation of Sanskrit.

While the UPA government remains in power, these policies will not be implemented. But education will remain a key issue in Indian politics. The government will have to deal with the problems in the education system and, for its own long-term political survival, it will need to reverse the changes introduced by the NDA.

As mentioned above, in its Common Minimum Programme, announced on 28 May 2004, the government pledged to raise public spending on education to at least 6% of GDP, impose a cess on all central taxes to 'universalize access to quality basic education' and reverse the creeping communalization of school syllabuses of the past five years. Both the budget and the Independence Day address stressed the importance of education as a key to tackling poverty. The president, Abdul Kalam, has called for expenditure on education to be raised by 2–3 per cent of GDP.

The government has already faced a number of criticisms. The Communist Party of India (Marxist) criticized the UPA's moves on textbook reform for 'falling short of what the new government has incorporated in the Common Minimum Programme in its section on education'. It also looks as if relations between the Centre and state governments will remain strained.

Moves to desecularize Indian education under the previous government were, in part, an attempt to strengthen the BJP's future voter-base. But they also stemmed from a widespread recognition that India's education system fails large numbers of its young people, either because education is not available or because it does not provide students with relevant skills. The Common Minimum Programme represents a welcome attempt to reassert the traditional vision of education in India, concentrating on access, quality and secularism. But while these aims have remained largely unchanged since Nehru's era, it remains to be seen whether the current government can become the first administration to confront and manage the balance between excellence and equity. ■



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42 Pratap Bhanu Mehta, *The Hindu*, 8 January 2004, p. 10.

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45 For example, Sangh Parivar members have intimidated authors and publishers of books critical of Hinduism or Hindutva. A civil injunction was laid against a historian, D.N. Jha, who wrote a book on beef-eating in ancient India, while the ICHR has withdrawn from publication two commissioned volumes on the freedom struggle, which included documents showing the RSS and Hindu Mahasabha collaboration with the British. In January 2004 Oxford University Press withdrew a book in India by James Laine from the University of Minnesota entitled *Shivaji: The Hindu King in Islamic India*, following violent protest by far-right groups upset by

anecdotes about Shivaji's personal life. He is admired for his stand against the Mogul empire and is considered a national hero. The research centre in Pune, BORI, where the book was researched was also vandalized.

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## INDIA'S EDUCATION POLICY: SUCCESSSES & PITFALLS

supported by the appropriate Government, shall be liable to pay any kind of fee or charges or expenses which may prevent him or her from pursuing and completing elementary education. 'Compulsory education' casts an obligation on the appropriate Government and local authorities to provide and ensure admission, attendance and completion of elementary education by all children in the 6-14 age group. With this, India has moved forward to a rights based framework that casts a legal obligation on the Central and State Governments to implement this fundamental child right as enshrined in the Article 21A of the Constitution, in accordance with the provisions of the RTE Act.

The RTE Act provides for the:

- Right of children to free and compulsory education till completion of elementary education in a neighbourhood school.
- It clarifies that 'compulsory education' means obligation of the appropriate government to provide free elementary education and ensure compulsory admission, attendance and completion of elementary education to every child in the six to fourteen age group. 'Free' means that no child shall be

liable to pay any kind of fee or charges or expenses which may prevent him or her from pursuing and completing elementary education.

- It makes provisions for a non-admitted child to be admitted to an age appropriate class.
- It specifies the duties and responsibilities of appropriate Governments, local authority and parents in providing free and compulsory education, and sharing of financial and other responsibilities between the Central and State Governments.
- It lays down the norms and standards relating inter alia to Pupil Teacher Ratios (PTRs), buildings and infrastructure, school-working days, teacher-working hours.
- It provides for rational deployment of teachers by ensuring that the specified pupil teacher ratio is maintained for each school, rather than just as an average for the State or District or Block, thus ensuring that there is no urban-rural imbalance in teacher postings. It also provides for prohibition of deployment of teachers for non-educational work, other than decennial census, elections to local authority, state legislatures and parliament, and disaster relief.
- It provides for appointment of appropriately trained





teachers, i.e. teachers with the requisite entry and academic qualifications.

- It prohibits (a) physical punishment and mental harassment; (b) screening procedures for admission of children; (c) capitation fee; (d) private tuition by teachers and (e) running of schools without recognition,
- It provides for development of curriculum in consonance with the values enshrined in the Constitution, and which would ensure the all-round development of the child, building on the child's knowledge, potentiality and talent and making the child free of fear, trauma and anxiety through a system of child friendly and child centred learning.

All the above objectives some proposed and some achieved are steps in the right direction but apart from these, there is need to revamp teacher education, guidance and counselling of teen age students, organisation of live skill programmes for college students, student support services in school and colleges, pre-vocational training schools in rural areas and junior technical school in urban areas. All these should also be brought under the ambit for discussion in National Education Policy 2015. The Education Policy should aim to encourage research without compromising on the standard of teaching. Policy should emphasis on curriculum which is student friendly and professional development of teachers. Also, library system (the heart of any research or educational institute) in our country hasn't got its due consideration especially, in case of school education the library system is totally neglected. Along with all these areas there is need of increasing the focus on growth of distance learning such as E-learning.

#### CONCLUSION

Over the past four decades India has undergone rapid demographic changes which has resulted in a massive shift in the age structure of the population with over 356 million people in the age group of 10 -24 years. India has world's largest youth population. This can be an invaluable human resource if provided with the necessary skills so as to empower people to lead a purposeful life and exploiting this potential can provide a huge population dividend for the country. But

this is possible only through quality education. Aggressive investment by the government as well the corporates in the sector is the key to unlock India's demographic dividend. Realisation of demographic dividend calls for reforms in education and health sector. In this age delivery of higher education cannot be allowed to continue in a routine fashion. There has to be a level of urgency among administrators and academicians to introduce innovative changes. Mobilisation of funds for higher education is also a major challenge for the government, the way out could possibly be met by tailor made public-private partnership mode.

There is need to expand primary and secondary education facilities in the country to increase employment opportunities for younger generations. Indian Universities would have to foster greater linkages with international universities. Expansion of elite higher institutions like IIT's, IIM's and AIIMS is already on government's agenda, but apart from that we need vocational universities offering 2 years associate degree that creates mobility between certificates, diplomas and degrees. It is a matter of concern that none of India's over 700 universities and 36000 colleges finds its place in world's top 200 educational institutions.

Another problem faced by the country today is shortage of skilled workers, which will swell into an incapacitating factor for the Indian industry in future. This has largely been attributed to Indian education system which does not focus on training students in employable skills.

By 2022, the average Indian's age would be 29 years. So far India has not been particularly successful in realising its demographic dividend. Therefore, government would have to emphasize on providing vocational education and training to theyouth to reap the benefits of demographic dividend. In order to meet the challenges in the future and to prepare for them, it is important for India to exploit the window of opportunity available for a short period, with appropriate economic and social policies. Education , being the essence of human resource development, is the key to the socio-economic progress of a nation and needless to say, it is the only means to channelise the productive energies of India's teeming millions into a a dynamic and vibrant workforce. ■

### *Continued from page: 5* Change is the precursor....

direction. It's like the hero, in a typical movie. Let's reconstruct our education system with modern techniques; giving emphasis on education which is value based, rich in culture, more on democratic framework, so that other nations follow it. This will definitely raise the self-esteem of people and make them a role model for the This can happen only when all of us cometo imbibe the SENSE OF BELONGINGNESS and practices it. Every citizen of India has a responsibility to share in the larger interest of the country. The indians won freedom by fighting united against the British government.

People of castes, communities joined hands together to gain independence. We as a citizen of India must exert all efforts to accelerate the growth of modernisation. We have to think, plan, implement and work together for the Modernization Of Democratic India – with one motto : that we educate the masses, have nation first than the religion. No force on earth can stop us from becoming an Advanced, Developed, Modern India. We must not allow interference of the political institutions in the education system since the future of young generation lies in our hands.





# Nature of Science

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*“What men are poets who can speak of Jupiter if he were like a man, but if it is a spinning sphere of methane and ammonia must be silent!”*

*Richard P. Feynman*

The above quotation of Feynman tells us that the so called dry facts of science deduced on the basis of experimentation and logic are equally inspiring as mythology and poetry. If we look at the constellation of *Saptarshi* and are able to name all the stars after some *rishis*, it is mythology. If someone who has studied science or read a book on astronomy makes a statement that all the stars of this constellation are not even in one plane as revealed by theoretical and experimental pursuits of astronomers, is it not more awe-inspiring? Will it not attract students or the people at large to create in them a curiosity or motivation to learn science? Many such examples related to the disciplines of chemistry and biology could be given from natural and artificial events and gadgets present in our environment. If it is so, then to what extent teaching of science in our schools fulfills such a purpose? Here we attempt to discuss nature of science in this context. The basic aspect of man's mind of observing things around him, using them and not only thinking about them but evolving a system of thought about them has been the root cause of all development of our society and human existence that we see today.

## SCIENCE AND ITS NATURE

A science teacher, who reads this must have studied Physics, Chemistry and Biology or any other life science up to higher secondary level and two of these subjects at undergraduate level and may be any one of these at post graduate level. Your idea about nature of science depends upon how you have learnt it. If you have just committed to memory the facts of science heard in the classrooms or read from the book and done your experiments mechanically and never questioned anything that you come across, never imagined the processes through which the discoverers/scientists went through, then probably your idea of science would be best described by the oft-quoted definition of science:

“Science is the systematized body of knowledge.”

But is it true? Even if it is true and useful in a context of passing examinations or doing a limited job, is that what impression we should give to a pupil sitting in our class for whom life is an open opportunity? We do not know what profession/job activity he would do in future. Not every one of them would pursue science discipline further. But one thing is certain, he is to become an informed and thinking citizen of our country and a human being adept with global concerns on this earth. What aspect of nature of science then one should emphasize so that his interest is maintained, his anxiety is reduced, quality of learning in psychomotor and affective domains improves and if at all he pursues an academic career of teaching and research in sciences, he would feel motivated. So this aspect of science that it is systematized body of knowledge about all events and gadgets around us cannot be neglected. It is true that we will have to impart a minimum of correct content of science appropriate to the level. This is exactly what is meant by content validity referred to in the position paper of the focus group on science teaching referred in NCF 2005. But this should not become the only thing and all that we do in the classroom.

## SCIENCE PROCESSES

Equally important part of science, is the scientific method, the science processes, the scientific attitude which scientists are said to have and because of which the whole systematized body of knowledge has been created. This is termed as the process validity referred to in NCF 2005. According to Karl Pearson following eight steps represent the scientific method/process:

1. Sensing the problem including its definition, scope and analysis
2. Experimentation
3. Collection of data, interpretation of data, selecting and examining the most fruitful hypothesis
4. Establishment of law



**5. Centralization of the law (theory)****6. Application of the law to newer situation****7. Predictability**

**8. Idealization and abstraction.** This step tends to link science with philosophy.

According to Mills and Dean, practice in the definition of problem involves:

**A) Problem survey.** Analyzing a potential problem situation for items to be studied.

**B) Problem description.** Providing a clear statement for items to be studied

**C) Problem discussion.** Making sure that the researcher understands what is involved in the problem

**D) Problem limitation.** Isolating those parts of the problem that can be tackled profitably

**E) Planning for action.** Preparing suitable hypotheses for investigation

**F) Further analysis and limitation.** Tentative testing of hypotheses to identify those most likely to yield solution.

All the above-mentioned 'A - F' stages of definition and identification of a problem and steps 1-8 of solving the problem and formulating a theory are related to scientific investigation of any problem as such not necessarily belonging to science. In this sense scientific method goes beyond science. Two things have to be kept in mind at this stage, that all conscious scientific investigations and researches in all fields of knowledge follow this method but scientific discoveries do not follow this path exactly. When Archimedes got the solution of the King's problem of finding whether the crown was made of pure gold or not he was not following method of scientific investigation consciously. The discovery of electron diffraction or radioactivity was also a chance discovery caused because of some accidental occurrence. Secondly the system of thought which enlist above as the aspects of scientific method itself is an afterthought after the discoveries and theories in science got already established. Astronomers like Tycho Brahe did not collect data on the motion of planets to find a formula connecting his data. It is another matter that Johannes Kepler discovered a pattern in the data and gave an empirical formula, which was later derived from fundamental postulates of gravitation by Sir Isaac Newton. These fundamental postulates were later experimentally verified in the laboratory by Cavendish.

**SCIENCE AND OTHER AREAS OF KNOWLEDGE**

It is also relevant here to discuss in what way science is different from other subjects. Hirst has identified four distinguishing features of all fields of knowledge on the basis of which they can be distinguished.

**Characteristic basic concepts:** For example, valency in chemistry, density in physics, cell in biology, revolution in history. Some concepts are shared by different disciplines; for example molecule, atom, electron are basic to physics, chemistry and biology. The concepts in science may be concrete or even if abstract they are related to concrete experiences or experiments with concrete things. In sciences all concepts have theoretical as well as operational definitions. Operational definitions are related with experiment. For example:

"Cell is a constituent unit of every living thing." can be considered as theoretical definition. "Cell is what is visible under the microscope." can be considered as operational definition.

**Characteristic structures by which concepts are related:** All observations and experimental data in Science can be correlated to evolve a structure which then further help in collection of data. And sometime this structure itself can be modified and then replaced by a more convenient and logical structure. In chemistry, periodic table, arranges the chemical properties and characteristics in a systematic manner and if you go in its history of science you find that the idea of periodic table itself evolved. Similar structures exist in physics, Newton's laws of motion, in biology, classification of living things and in languages rules of grammar. In sciences, especially in physics, the structure is more and more dependent on mathematics

**Characteristic ways in which statements are tested against experience:** In sciences the test takes the form of observing some particular experimental results or observations as particular instances of a generalization. Falling bodies, such as stones, fall at the same rate. All acids turn the blue litmus red. In some areas, such as art, these tests are entirely subjective: as well as depending upon personal response and difficult to rationalize. The results of such tests are not likely to be supported by the consensus of opinion usual in science.

4. Characteristic techniques and skills for exploring and explaining experience: In school practices these refer to all measurements in physics, volumetric analysis, dissection. In languages it is letter writing or story writing. In making people understand difficult ideas, sometime thought experiments are also described in the study of science. One such thought experiment is by Galileo to make the idea plausible





that a body will continually move for ever in the absence of any external force, given in the textbook of Science for class IX on page 116.

Hirst suggests that these four characteristics are helpful in distinguishing different forms of knowledge, and they are certainly useful to the science teacher. It is usually easy to list the concepts and techniques belonging to the given topic in sciences, but the 2nd characteristic – structure and 3rd characteristic test against experience may not be so obvious and simple. To understand the structure of science and the way in which concepts are interrelated demands a degree of abstract thinking which most children (age group 14-15) are beginning to develop during secondary level. For doing this teachers have to make special efforts to first develop these competencies in themselves. Mostly they tend to avoid and just follow the (path of least resistance!) textbook or the more popular guidebook blindly. Nevertheless, it is important that by the end of general education a pupil should have experience of all four characteristics of science as a form of knowledge, which he is studying. Without this he may make decisions about his future course of studies or his career without sufficient evidence under peer, parental and societal pressure and also his understanding of the concepts of science will not be up to the mark affecting his performance as future researcher or teacher of science.

The most fruitful way, in which we can explore the science processes further is through the third characteristic of science, that is, through an examination of the relationship between theory and observation. We must make pupils learn to distinguish between observed phenomena and explanations put forward by the creative thinking of the human mind. Pupils and before them teachers must learn to see the interplay between observed facts and explanation.

There is lot of philosophical debate on what is observation, what is theory and model, whether electrons are real, what is a model and what role mathematical formulations play in scientific explanations etc. These are not discussed here, because pupils at the secondary stage may not appreciate it and if we really try to discuss, the way we understand them, then they may find science very obscure and go away from learning of science. Interested readers may browse/study references or download from internet regarding nature of science and have debates in the peer group on their understanding about the claims of rival philosophical ideas about the nature of science.

#### Science and society

Although everyone knows and appreciates the benevolent impact of science and technology, there is a different view that science also gives rise to problems such as pollution and overpopulation that a careless exploitation of scientific knowledge has produced. Another cause is the suspicion that a law of diminishing return is acting. It is becoming more and more expensive to gain more and more knowledge of the ultimate structure of matter down to submicroscopic particles as well as the cosmos. Thus at the present time there is considerable questioning of the role and methods of science and exploitation of its findings through technology. While teaching science we have to emphasize the benevolent aspects of science and try to impress upon pupils that even for the problems posed by science, only more science can find the solution and it is the scientific attitude, which transcends all forms of knowledge, can also help in answering ethical questions and dilemmas created by the status of science and technology at beginning of the third millennium.

#### CONCLUSION

Bruner has said that if the structure of a discipline matches the structure of instruction then the learning would be more meaningful. Structure of science broadly includes the content as well as the processes through which the content has been generated. It is thought that the processes of science should be developed in our pupils in a more humanistic, socially inclusive and environment-friendly atmosphere in such a way that everyone tries to become scientifically literate in a willing and willful atmosphere. Whatever experiments or theories we discuss at secondary level should be such that they can be discussed by laymen in everyday life, rather than only in a structured environment of a classroom and a laboratory. We should always remember what Albert Einstein has said that, "Scientific thinking is just systematized ordinary thinking!"

Our understanding of nature of science should influence the nature of teaching-learning science in our schools. We should encourage our pupils to do experiments collect data, prepare graphs, ask questions, frame hypotheses, predict outcomes of simple experiments, and in general enjoy learning. Children should feel that science makes sense, that science is interesting. Teachers must consider that every pupil is a scientist.

What you have read so far must have generated a few questions/doubts/opinions in your mind. If it has, the basic purpose of this effort has been served. Now read the following





exercises/questions/ideas, discuss and write your answers/comments to collate and corroborate your ideas. The list of the reading material will also help you in this effort.

### EXERCISES/QUESTIONS/IDEAS

1. Read the quotation by Feynman given below and write down what you understand about what he wants to convey about the nature of science and science teaching.

A poet once said, "The whole universe is in a glass of wine." We will probably never know in what sense he meant that, for poets do not write to be understood----. There are things of physics: the twisting liquid which evaporates depending on the wind and weather, the reflections in the glass, and our imagination adds the atoms. The glass is the distillation of the earth's rocks, and in its composition we see the secrets of the universe's age, and the evolution of stars. What strange array of chemicals are in the wine? How did they come to be? There are the ferments, enzymes, the substrates and the products. There in the wine is found the great generalization: all life is fermentation. No body can discover the chemistry of wine without discovering, as Louis Pasteur, the cause of much disease. How vivid is the claret, pressing its existence into the consciousness that watches it. If our small minds, for some convenience, divide this glass of wine, this universe into parts - physics, biology, geology, astronomy, psychology, and so on - remember that nature does not know it! So let us put it all back together, not forgetting ultimately what it is for. Let it give us one more final pleasure: Drink it and forget it all!

*Richard P. Feynman*

2. "Astronomically speaking man is nothing. But astronomically speaking man is an astronomer!"

Explain these apparently contradictory statements using what you understand about what is science and its nature.

3. What are two observational differences between a planet and a star?

Explain in terms of what you have read and what you have actually observed.

4. Are there any natural substances which can act as indicators of acidity and alkalinity of solutions. As a scientist what questions/hypotheses you can suggest regarding this. What investigations you would like to plan. What outcomes you predict?

5. In your every day discussion you say, "I have acidity. Lemon juice itself which is acidic is supposed to cure it! How come? Is it true? Does it work along with common salt?" Have you ever thought about it?

6. It is written in textbooks: If you hold a heavy brick for a long time, you do not do any work. Do you not feel tired more because you are holding the brick? Are you not losing energy fast? Are energy and work not related?

7. It is recorded in the biography of Albert Einstein that as a child he used to think what would happen to his image in a plane mirror if the mirror starts receding from him with velocity of light. Do you think a student of class VIII who has learnt reflection of light may also think in this manner? Have you ever thought like this on this or any other science related issue? Describe in a peer group.

8. Does an object suspended in water lose weight? What hypothesis you can make to explain this fact?

9. Are there independent definitions of 'heat' and 'temperature'?

If not, why not? Is there any other pair of concepts like this in science?

10. There are two laws of reflection of light. Explain their necessity experimentally. According to discussions given in the book it appears as if angle of incidence is equal to angle of reflection should suffice. What experimental observation you predict which will not necessitate the existence of the other law?

11. It was known to scientists, that enclosed air acts like a spring before they knew that air contains randomly moving molecules. Describe the experiment you would do to demonstrate this.

12. Read the following statements carefully:

"Mass is the quantity of matter contained in a body. Matter is anything that occupies space and has weight."

Do these statements define mass independent of force? Comment.

13. Explain the complete mechanism of seeing as well as hearing in terms of different concepts from the disciplines of physics, chemistry and biology.

14. Prof. J. Naralikar in his address in Bhopal on 7th and 8th February 2005 on possibilities in future made the following observation.

"Future has a curious mix of good and bad:

Good news: highly advanced scientific inventions, better amenities, human genome, use of artificial intelligence, et al.

Bad news: threat to human race, severe depletion in ozone layer and the human completely enslaved by the machine."

Comment on this using what you have learnt about science and nature of science.





## STUDY

15. Emphasizing structure is probably even more valuable for the less able students than the gifted one.

Bruner

Justify your agreement or disagreement with the above statement.

16. "Twenty-first century may be called as the age of photonic revolution with the information to the level of 50 GB getting released faster than ever before. Revolution may take place on information highway with high frequency information dissemination and invention of phased array of antenna. With magnetic levitation trains are set to run at a speed of 500 to 2000 km/h. In aviation, aircrafts may acquire a speed thrice the speed of sound. Furniture and machines may get repaired automatically. There might be 'intelligent staircase and building, which would warn people of excess load and natural disasters and take precautionary steps. This would require more energy, much more than the total energy required in 2000 years. Solar energy through microwave would be used on earth and energy through fusion. Genetic engineering would be useful for treatment of AIDS and cancer. After three decades people may work from their homes. Students would study on large TV screens through teleconferencing and computer files. On the flip side, use of unrestricted CFC material (promoted by USA) would have ozone depletion and cloning could wipe an entire race. Decline in physical labour and over dependence on machines would lead to physical and mental ailments and finally the nuclear menace may wipe out entire civilization."

Prof. J. V. Naralikar has said above things in his address at Bhopal in 2005. What signs do you see of this actually happening? Explain.

17. A child asks, 'Why are all plants leaning towards the windows? How would you respond?

18. Are the following scientific facts?

- i) Columbus discovered America in 1492
- ii) Einstein died in 1954
- iii) Plants prepare their own food

19. It is said that every object remains in a state of rest or of uniform motion unless acted upon by an external force. But it is a common experience that living things such as rats, frogs, animals and human beings jump at the same place.

Does the Newton's first law not apply on them? Have you seen any inanimate object jumping?

20. Does human eye act like a camera or a video camera? Justify your answer.

21. There was a newspaper report on what was called 'A bionic eye' - an electronic aid to the blind. It will be fitted to human eye and would give direct electrical stimulation to only a small number of cones of the retina. With the help of this, the blind would be able to 'see' or experience vision almost equal to those with normal vision.

Comment on the possibility of such a technological marvel.

22. Take a sharp coloured object a pen a plastic alphabet. Place it above a white paper. Constantly stare at it till you count fifty. Suddenly remove the object from view, but keep staring at the white paper for a few seconds.

What do you observe? Explain your observation. Hypothesize. Try with objects with different colours.

23. While playing with coloring paper with the juice of hibiscus flower, by chance, lemon juice falls on the paper and you find that the paper turns from violet to red.

What hypothesis you would make from this observation? How would you test your hypothesis? Plan a study like this on all flowers. What do you predict?

24. You know that when white light passes through a red tinted glass sheet/paper red light comes out of it. You tell pupil that white light contains all colours red glass absorbs all colours except red hence you get red light. Pupil refuses to agree with this. Instead he argues I put red coloured ink in a glass of water, water becomes red. Similarly red glass adds red colour to white light.

What arguments you would put forward or activities you would perform to dispel his logic.

25. Galileo is credited with doing an experiment of dropping a feather and coin from the tower of Pisa. According to law of falling bodies, verified by modern experiments heavy or light objects fall equally fast in vacuum or if we can neglect air resistance.

Derive this law logically, by doing a thought experiment.

(Hint: Consider that heavy body falls faster than light body. Now predict what would happen if they are tied together to get still a heavier body.) Do you arrive at a contradiction?)

26. Discuss the difference between the concept 'virtual image' as formed in a plane mirror and 'virtual reality' as talked about these days! ■





*Continued from page: 12*

## A Library for Contemporary Children and Researchers

brary's collection apart from Hindi and English.

### ACTIVITIES AND EMINENT VISITORS

Recently an award winning Australian author specialist in Children's Literature Christopher Cheng came to India also visited NCCL Library and the NBT on 24th August, 2014 and delivered the lecture regarding the practices followed in Australia in creating Children's Literature and exchanged his views with the India's community of Children's writers, illustrators, publishers and others related people. The famous Japanese translator Tomoko Kikuchi visited the library on 8th August, 2014 and discussed and showed pictures through screen display of her book entitled Hiroshima Ka Dard with the school children spreading the message of peace. Many other personality of National as well as international fame like Rajendra Patel, Varsha Das, Navin Menon, Balbir Madhopuri, Mahadev Desai, Vishvdeep Deo, Dr Madhu Pant, Dr Sunanda K Reddy, Dr R Ramachandran (NBDCS -Singapore), Rajiv Tambe, Dr Baldev Vanshi, Mishtuni Choudhry, Subir Shukla, Arvind Kumar, Shashi Shetya, Surekha Panandiker, Prof. Digamber Satpathy, Achyut Das, Dr Divik Ramesh, Rajani Kant Shukla often grace the library with their visit for various purposes. Foreign Ambassadors, delegations and representative from Indonesia, shrilanka, korea, Singapore, Tibet, france, Poland have also graced the library with their visit in this short span of last year.

### CONNECTED TO DELNET

The Library is connected with the databases of 5000 libraries through DELNET in India and abroad. The databases of all the major libraries e.g. Jawahar Lal Nehru University (JNU), Delhi University (DU), National Library, Kolkata, Nehru Memorial Museum Library, Teen Murti Bhavan (NMML), Sahitya Akademy (SA), Rabindra Bhavan, Centre Secretariat Library (CSL), Shastri Bhavan, Central Institute of Indian Languages (CIIL), Mysore, Delhi Public Library (DPL), can be consulted here. The documents can be made available to the users on Inter Library Loan on request.

### MEDIA CENTRE AND ACTIVITIES

A new section of the Library has been developed as media

centre consisting of one touch screen computer for display of OPAC catalogue, and two personal computers for public use. 150 CD's/DVD's of children's literature are available for viewing and use of the public. The facility has been availed by various NGO/voluntary organization in the programs at different intervals.

The library holds various NCCL events involving world famous writers, illustrators, journalists, publishers other professionals in the field. There is a special seating arrangement for children where about 45 children can be accommodated to conduct some activity. Every month some kind of activity is conducted with the children and other community in the library. Prof Yashpal, a leading science communicator, delivered a lecture on 'Developing a Scientific Temper in Children' when NCCL (NBT) celebrated his 88th birthday on 26th November 2014. The NCCL Library holds creative activity for children as well. Recently partnering with Modo Meo and Open Doors it had a creative writing workshop from 29-31 December, 2015 with 22 underprivileged children of the voluntary organization 'Srishti' in the library. The children up to the age group of 9-12 year were trained and skilled in the art of creative writing and storytelling.

Anupam Mishra, an Indian Gandhian, author, journalist, environmentalist, had an interactive session with the 60 school children of DPS Gurgaon on 30th January 2015.

Most of our famous children's authors and illustrators who have conducted activities in this library includes Prakash Manu, Madhu Pant Jagdish Joshi, Subir Roy, Paro Anand, Atanu Roy, Kusum Lata Singh, Partho Sen Gupta, Prof. Anvita Abbi, Surya Nath Singh, Abid Surti, Deepawali Debroy, Sunil Shetty, Anupam Mishra, Surekha Panandiker and many other significant personalities in the field.

### OPAC CONNECTIVITY

One of the most spectacular features of this library is its **Online Public Access Catalogue (OPAC)** in which can be accessed anywhere, anytime in the world. The library had mass display of its database in the recently-held children's pavilion, New Delhi World Book Fair, 2015. ■

*The author is Librarian-cum-Documentation Officer of the National Centre for Children's Literature of National Book Trust, India.*



# Education in India: Privatisation or Nationalisation

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**E**ducation is indispensable in nation-building and its effectiveness in modern society is the matter of great concern. In India, due to the long tradition of learning of few privileged classes, education has been the most neglected sector. Although it is claimed that in India education was considered as the highest virtue but the doors of it were not open to all until the British rule. No doubt, foreign scholars visited India for higher learning from Nalanda & Takshashila universities during *Buddhist* era for centuries. But presently our universities have not found any place even in top 200 universities of the world. During the period of 65 years after independence, there has been a nation-wide growth of educational institutions in India and it is true that, India has been third largest country in terms of higher education system in the world, next to USA and China, but only 11% young people of this country have an access to higher education. Children are waiting for primary school education on mass level even after the implementation of Right to Education Act, 2009 and still India celebrated its impressive growth in education sector although about 8 million children out of school and only 57% children were in school as per data of Institute of Statics, UNESCO in 2011.

Despite the several odds, insufficient budgetary provisions

and improper educational planning, India has become the major destination of outsourcing for several developed as well as developing nations. On other side, there has been a major governmental failure to impart free and compulsory education and to enforce the Right to Education properly. India is planning the policies to conceive expenditure on education as investments in human capital. The Planning Commission, Ministry of Education, number of committees and commissions planned and shaped the education in India. Unfortunately the recommendations of these commissions were not taken seriously for many years. Although in budgetary speech for 2013-14, the Finance Minister of India emphasized on health and education for all and proposed to allocate a total sum of ₹1, 24,909 crore for education purposes in all including ₹4,727 crore for medical education, training and research, ₹65,867 crore to the Ministry of Human Resource Development, ₹27,258 crore for Sarve Shiksha Abhiyan (SSA), ₹3,983 crore for Rashtriya Madhyamik Shiksha Abhiyan (RMSA), ₹5,284 crore for scholarships to students belonging to Scheduled Castes, Scheduled Tribes, Other Backward Classes and Minorities, and girl children and ₹13,215 crore to Mid-Day Meal Scheme (MDM). He also said that the government is committed to





the creation of Nalanda University as a centre of educational excellence. But how much this budgetary allocation shall be utilized properly; still it is in the dearth of future.

In the era of globalization and privatization of education, especially higher education has been opened to the market forces. Commercialization of education has been a big challenge before the fundamental right to education in India. Through governmental decisions, such as subsidy on education, permitting private persons to run the educational institutions, the education has fallen in the trap of globalization. Commercialization of education has created multitude problems, namely threat to right to equal access to education, problem of capitation fee, money replaced socio-national need and merit, deprivation to economically poor sections of the society, manipulation of examination results and exploitation of teaching, non-teaching staff as well as students. Apart from the private profit motive mechanism, the sad part of the story is that there have been several governmental moves paving the way for commercialization and corporatization of higher education also.

The central government policy on education of 1986 as amended in 1992 stated that in the interest of maintaining standards and for other valid reasons the commercialization of technical and professional education will be curbed. But the government failed to adhere it. The National Knowledge Commission- a high level advisory body established by the prime minister to recommend the changes in the higher education system, the MHRD and the Planning Commission of India- all have come out with several radical measures to reorient higher education sector so as to make it more competitive and transform India into a society full with the knowledge. However the state of higher education in India has been full of problems. The private participation in education sector has entered in a big way, including private and foreign universities. Alongwith the privatization of education, the setting up of private universities through State Acts is a recent phenomenon. Such commercial education centers are free to devise their own admission procedure, fee structure, pattern of evaluation, ranking and selection procedure.

Whether education is a social service or industry now has become a point of debate and education is facing the challenge of adjusting itself between the two opposite positions these are social service and private profit. In a country like India which has been thrown to socio-economic changes, the policies of privatization and commercialization of education are creating a new kind of educational inequality alongwith the traditional social inequalities. The primary education may remain the domain of mass but, the higher and professional education may become the monopoly of class. But certainly commercialization of education has also created a "glut of problems" and therefore, the different

stakeholders in the privatization and commercialization of higher education should keep in mind the warning of the Supreme Court of India as given in *P.A.Inamdar v. State of Maharashtra*, (AIR 2005 SC 3226). The Supreme Court of India held that *education is an occupation and it is not the same as business or trade*.

Dr. Ambedkar said that *education ought to be cheapened in all possible ways and to the greatest possible extent and he also said that we arrived at a stage when the lower order of the society are just getting into the middle school, high school and college therefore, make higher education as cheap to the lower classes as it can possible be made. Education should be made available and compulsory to all*. The Education Commission in India (Kothari Commission, 1964-66) stated that *the national system of education is the only instrument that can reach to all the people*. The UNESCO Commission on Education (1972) declared that *education is life long process and its purpose is to establish a learning society i.e. a society which knows 'how to learn' to grow and transform to the needs of ever changing world*.

Let us think that why not the education should be made open to all at all level with all qualities and standard without any discrimination to anyone on the part of the state. Dr. Ambedkar promoted the education to all on the philosophy of the Buddha, Saint Kabir and Rashtrapita Mahatma Jyotirao Phule. Similarly Kothari Commission and UNESCO Commission on Education recommended the formation of education system and pattern which can be possible to implant only through nationalization of education. But government opened the education system for privatization and commercialization. Until equal and uniform pattern is not devised, how education should reach to all the people equally. There is uniform examination and selection pattern of civil services, UGC and any other national or state recruitment agencies but the aspirants who are facing the examination and selection pattern have not been provided opportunity of parallel standard, it differ person to person e.g. one is passed from rural area government school and other one is qualified from highly standardize urban area private school then, how government can impose equal standard of examination and selection procedure for all. To shun out this problem from the society, equal and standardize education to all should be provided by the government. If the government is failed to do so then only aspirants passed from government school should be declared eligible for government sector jobs and aspirants passed from highly standardized urban private schools should be declared eligible for private sector jobs only. May be, it not possible on the part of the state. Then, there should be nationalization not privatization of education in India for the advancement of the society as whole. ■

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# PLUGGING INDIA'S SKILLS GAP

Mega Agarwal  
Social Entrepreneur

**T**ational here is a great shortage of people with employable skills. But vocational training is neither popular nor seen to be offering good job options. The challenge is to overcome this perception

Most policy decisions in India invoke the 'guns and butter' trade-off - we have limited resources, many conflicting uses for these resources and our policy makers therefore have to make hard choices. However, there are some critical issues, the solutions for which lie less in resource allocation, and more with a change in policy and mindset. This article focuses on one such issue - the severe need that India has for skilled workers, and the inability of our existing vast educational system to produce them.

According to the International Labour Organisation, India has approximately 39 million registered unemployed persons. There are probably another 260 million who are underemployed or unemployed in the age group of 18-50 years, according to iWatch, a Mumbai-based voluntary organisation. At the same time, the organised private sector is struggling to find skilled workers, which in turn is impacting its ability to compete on a global scale.

Take the example of steel. India is targeting an increase in steel capacity by 120 per cent, to 120 million tons by 2019-2020. To achieve this, in the next few years more than eight million skilled people will be required to work in this sector. According to industry experts such as Tata Steel's HR head B N Sarangi, the country lacks the skill development centres to supply these human resources. This is the tragedy of our labour scenario - a large number of unemployed and unemployable young Indians, who are hungry to learn, but who lack the skills needed to participate in the Indian growth story.

What is the solution to this glaring mismatch? A cursory glance at several industrialised nations indicates that a thriving, dominant Vocational Education and Training (VET) system can play a significant role in reducing this imbalance. Vocational education focuses on the creation of skills in specific trades that generate employability. Its focus is significantly different from higher education in that it recognises a very basic fact from operations theory - our products, services, and potentially our long-run welfare are only as good as the weakest link in the chain. Offering quality vocational education to our youth today is of paramount importance to India's economic and social

development, if we want India to become to force to be reckoned with globally.

World-wide, about 80 per cent of the population between 15 to 35 years of age learns a vocation, a skill or a trade, with a choice of 3000 VET programs. India has only identified about 500 courses and according to a recent World Bank study, less than 3 per cent of our population undergoes formal VET training.

We live in a world with diverse and evolving production lines, which in turn require diverse skill sets. While a country needs someone to produce research on say, how to build the best goods, it also needs someone who is trained to a world-class level, to man and operate the technical apparatus used to produce and maintain these world-class goods and services. The weakest link in India today is not a lack of engineers and doctors, business school students or IT professionals. It is the lack of young skilled-workers to make our steel factories run, to provide top-notch ancillary services from automobile repair and white-goods installation to planning our cities better and improving our revenues from tourism.

## LARGE NUMBERS, LITTLE IMPACT

Our ambitious growth forecasts are partly based on what is known as the 'demographic dividend'. India is a very young country with over 770 million people under the age of 35. The average age in India is 25 years, compared to China, where the average age is 34 years and Europe, America or Japan, where it is 40-45 years. We expect this to translate into higher growth, via improved output, production and consumption. But the 'dividend' cannot come from the numbers alone; the nation will also require its young population to have the skills that increase productivity and output.

According to the Modular Employment Skills (MES) initiative by the Directorate General of Employment and Training, (DGET) only about 2.5 million vocational training seats are available in the country, whereas about 12.8 million people enter the labour market every year. The large gap is partly due to the lack of high-quality VET institutions. However, there is also another reason; the student population does not perceive VET as an option that gets them what they aspire for. An optimal strategy



has to address both why more Indian students are not taking up vocational education, as well as aim to correct the ineffectiveness of existing providers to attract and equip motivated students with skills to become part of a productive workforce.

The good news is that vocational education is making its way on to the radar of the various influential bodies that have the power to generate change. For instance, the Prime Minister's National Council on Skill Development has been established with a target of creating 500 million skilled people by 2022. There is growing engagement by the World Bank, the Human Resource Development Ministry, industry organisations like the FICCI and CII and various consultants who recognize the importance of a skilled and employable youth population. Industry insiders, however, are aware that mechanisms for promoting vocational education have been around in the Government for ages, in different shapes and forms, and have failed dismally for the most part. There are close to 7000 ITIs, where training is imparted in 128 trades. The period of training varies from 6 months to 3 years, while the entry qualifications are academic and vary - from those who have passed Class 8 to 12. These institutions are widely perceived - both by students and the industry - as being ineffective and out of touch with industry needs. Of the 128 trades they teach, many such as turners, machinists and grinders have been rendered obsolete by technological advances. The curriculum for several of the others e.g. several engineering trades has not been revised in several decades.

This has led to a mass-churn of graduates who are not needed by the industry and are not equipped with the basic technical know-how of their trade and as a result are becoming a part of India's vast unemployment pool. At the same time, the government is encouraging private sector participation in the form of Public-Private-Partnerships (PPPs). However, due to the lack of a transparent and intuitive accreditation system, a multitude of unaccredited institutions have sprung up in places, and a lack of any formal accreditation makes accountability and quality control impossible. There are several thousand community polytechnics that are training about 450,000 people a year, and none of these programs has been evaluated rigorously.

Unfortunately, simply reducing existing government inefficiencies and involving the private sector will not automatically ensure that parents will want their children to take up vocational education. It is dangerous to discount the very deep-rooted stigma associated with vocational training. It is common perception amongst parents and students that going for any sort of vocational or skills-based training would lead to eventual employment (if at all) in a 'blue collar' job, which is considered less respectable. Also, vocational education is perceived as a dead-end, with no

existing linkages to the formal higher education system.

Given these challenges, the critical message to get across is that not everyone should (as opposed to can) become an engineer, MBA, lawyer or a doctor. It is only by demonstrating that vocational education allows people to improve their livelihoods by getting jobs they desire that this mindset can be shifted.

At this stage, as the next new wave of vocational education and training approaches us, we need to ensure that we do not repeat mistakes from the past. This is all the more critical as the Government is planning to invest significant resources to scale up VET in India. It is critical that we step back and ask ourselves what key principles policy makers have to keep in mind while developing a model for the "perfect" institute for vocational education, which will be able to deal with both demand and supply hurdles faced by skills-based training today.

#### THE GOLDEN RULES FOR POLICY-MAKERS

Vocational education has evolved over the last few decades in other countries, and their experiences are extremely valuable resources for our policy makers. The "golden rules" that a system of vocational education should follow are:

- Institutions should be able to understand and evolve alongside industry needs, through a dynamic structure and deep involvement of industry practitioners in institution design and function.
- Institutions should avoid narrow focus on just one skill, by equipping students with generic skills such as problem-solving, basic computer literacy, language and communication skills to make them employable.
- Institutions should incorporate motivation into criteria for admission, as opposed to using purely academic benchmarks.
- Components of general education within vocational education should be established, and institutions should have links with traditional higher education institutions.
- The policy making process for vocational education should be streamlined, with transparent accountable mandates established for various supervisory entities.
- Accreditation bodies should be publicly accountable and monitored on a regular basis.

Vocational education has evolved along different paths in different countries. For instance, Germany and Switzerland are amongst the best known for the close and successful involvement of governments and policy makers in developing a high quality system of training.

In Switzerland, over two-thirds of the young population goes in for vocational education, which is a mission shouldered jointly and transparently by the following entities: (a) Confederation (at the 'federal' level) - responsible for strategic management and development; (b) Cantons (at the 'state'



level) - responsible for implementation and supervision; and (c) professional organisations - responsible for curricula and apprenticeships.

There is a national framework that is transparent and intuitive, in place for evaluation of quality, and there are well established linkages with industry and general higher education. VET follows a dual-track approach to learning, with students attending courses at vocational schools and developing practical skills by doing an apprenticeship at a host company.

Vocational education in Japan on the other hand, is mostly run by the private sector and boasts of some of the most innovative and responsive vocational training institutes. They offer some very compelling case-studies on the critical need for institutions to be able to evolve to meet the requirements of the economic landscape. Their focus has continually shifted in response to Japan's changing output profile. This was made possible by very strong linkages with industry, with courses on offer being dictated by societal needs coming from industry.

Also, motivation of the students is the sole basis for admission into several of these colleges, not academic ability. They accept all those who are motivated, and whenever the capacity is filled they close applications. Their teaching staff is learning constantly, and there is a healthy turnover in staff that often goes back to industry.

The advantages of a practitioner faculty are being widely recognized even outside the space of vocational education. A general higher education giant like the University of Phoenix subscribes almost completely to this model. Their faculty primarily comprises of industry practitioners who hold regular industry jobs and teach on a part-time basis. This model has generated shock-waves throughout the US since it goes against the traditional "knowledge-based" structure of higher education. However, the model has been a huge success where few can argue with the results as they are observed in placement statistics as well as the average quality of students.

#### KOREA

The Korean vocational education system has evolved considerably since it was set up in the early 1960s. While initially the emphasis was on churning out semi-skilled workers for the industry, the current focus is on equipping students with basic knowledge and skills and providing them with a foundation which will enable them to learn further. Some key features of the system include:

- Delaying streaming into vocational education till high school (for three years after grade 11). All students undertake a common national curriculum in the first year of high school, following which they choose to enter the general or

vocational stream for the remaining two years - however the vocational stream includes extensive elements of general education;

- Ensuring the vocational stream is not dead-end - by allow vocational students to proceed to higher education;
- Financing vocational education through government and private resources - about 40 percent of financing for vocational education comes through entrance and tuition fees;
- Linking up vocational schools with specific industries to ensure that curriculum and outputs match industry needs.

*Source: Pillay (2005)*

#### NEEDED: A SYMBIOTIC RELATIONSHIP

The challenge for Indian policy makers is to ensure that both the supply-side players i.e. the government and the private sector, enter into a symbiotic relationship to battle the perception issue plaguing the demand for vocational education. They need to work with each other to create impact on a large-scale to plug the massive human resource gap. The government has the advantage of existing infrastructure, credibility and scale, whereas the private sector is innovative, dynamic with strong links to the industry space. At the same time, industry is recognizing the importance of having skilled workers and is coming forward to actively involve itself - we can see this in the form of several industries adopting ITIs and the Confederation of Indian Industries (CII) entering into a partnership with corporate organizations such as **IndiaCan**.

There is no denying that the task ahead is daunting. Unsurprisingly, the single biggest source of hope lies in the youth. I recently visited Radaur, a village in Haryana with a population of under 15,000 people. The wide range of students, from Class 10 students to MBAs, were for the most part from modest backgrounds, with parents employed as sweepers, drivers and small shop owners. However, their motivation and hunger to succeed was evident, as was the recognition that in order to get employment they need to be equipped with not just a degree but with employable skills - trade based and soft.

This village is not unique in its youth desiring to "make it big." Dr. K L Johar, former Vice-Chancellor of a university in Haryana said to me, "the concept of participatory management is a panacea for educators, educational planners and administrators." Going by the same spirit, let us not just point fingers at our policy makers - they have a big responsibility, but ours is no less important. We can get the job done, together." ■

*Megha Aggarwal is a social entrepreneur. Courtesy: Indiantogether.*



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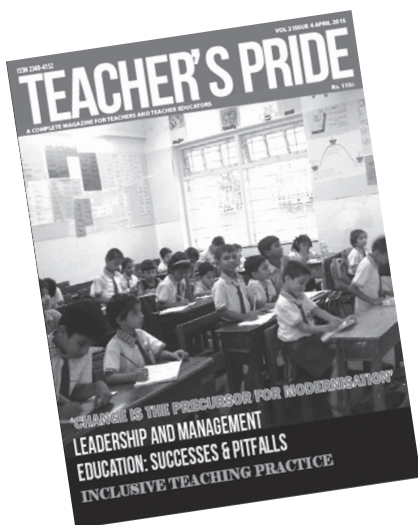
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